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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

N. Y. STATE AGRICULTURAL SOCIETY.

A full attendance of the officers of the Society is particularly requested at the next meeting of the Executive Committee, to be held at the office of "The Cultivator," on the 8th of June, at 10 o'clock, A. M.

LUTHER TUCKER, Sec'y.

THE SEASON AND PROSPECTS.

It seems to be generally conceded that the past spring has been a remarkable one for its forwardness, and the impulse vegetation in consequence received. As a matter of interest to some of our readers, we give the average temperature of these months for a few years past.

Year.	January.	Feb'y.	March.	April.
1838	32°	14°	40°	39°
1839	25	32	35	54
1840	19	35	37	49
1841	28	24	36	44
1842	30	31	41	53

It will be seen that the aggregate temperature of the first four months of the present year exceeds that of any of those given by 9°, or 2° per month, while it exceeds that of 1838, by 30°. An examination of the records of former years, will show that so small a difference as an average of 2° increased temperature, has a decided effect on the crops, particularly that of Indian corn. One of the best corn seasons we have had was that of 1839, the temperature of the spring months of which, most nearly approached the present. Notwithstanding this average increase, this season has been marked by some of the most extreme transitions of temperature we have ever recorded. Thus on the 22d of April, at two o'clock, the mercury was at 86°. The next morning at sunrise, some 16 hours later, it stood at 35°, making a range of 51° in that time: and there have been others not much less sudden or extreme. The past spring has throughout the country been remarkable for the little hindrance to the labors of the field, occasioned by unfavorable weather. The consequence has been, the spring grains have been got in earlier, and the soil in better condition, than we have known for years; and the complaints of imperfect vegetation, so common in wet cold seasons, have scarcely been heard this.

We have not for years known a season in which winter wheat has suffered so little from spring or winter frosts, as during the present; and from every section of the country, the same gratifying account reaches us. Every thing indicates that there will be a very great advance in the quantity of the wheat crop the coming harvest. In the wheat growing states, more land than usual was seeded, and as a whole, it has never promised fairer. Michigan promises to raise her crop from 2,200,000 bushels, to 3,000,000; and the states of Ohio, Indiana and Illinois, will not fall much behind this increase, should present indications be verified. There

is to us farmers, much pleasure in reflecting that while banks are breaking, states repudiating, governments bankrupt, and financiers at their wits' end, the earth promises to be liberal in its rewards to labor, and thus eventually bring back things to that sound and healthy condition, from which dreams of the sudden acquisition of wealth, the facilities of an unlimited credit, and the madness of speculation, have caused so wide and dishonorable a departure.

NEW WORK BY A. J. DOWNING, ESQ.

We have the satisfaction of being able to state that this gentleman, so favorably and extensively known by his unrivaled work on Landscape Gardening, is engaged in the preparation of a volume to be entitled "Cottage Residences," and which will be looked for with much interest as supplying a desideratum in American books.—There is not an individual in this country, to whom the preparation of such a work could be so properly confided with the assurance that every reasonable expectation would be fulfilled. His thorough acquaintance with the different styles of building, his correct taste, and his knowledge of the wants of the country, are a guarantee that his Cottage Residences will be adapted to the wants and wishes of the public. We trust it will be the harbinger of a more correct taste, and an improved style in our country residences.

NATIONAL AGRICULTURAL SOCIETY.

A press of matter the present month, will prevent our giving as full an account of our "impressions" during our recent visit to Washington, and of the proceedings of the National Agricultural Society, the meeting of which we had the pleasure of attending, as we had contemplated. Railroad traveling, our readers are aware, is not the kind of traveling where a country is to be surveyed or the condition of its agriculture noted; but the glimpses caught, were sufficient to show that the prospects for the farmer were flattering; and that many fine farms, and beautiful examples of improved husbandry were passed, which would doubtless have well repaid delay (could it have been permitted,) for their examination.

The meeting of the Society was opened on Wednesday, the 4th ult., at the Patent Office. Committees were appointed to report on various subjects—to nominate officers—and to report on the propriety of establishing an agricultural journal at Washington; and then the meeting adjourned until the next day at 10 o'clock. On Thursday, at the hour named, the Society again convened. There were present eight delegates from the New-York State Ag. Society; two from the American Institute of New-York city; two from New Haven, Ct.; one from New Jersey; one from Maryland; two from Virginia, including the President of the Society; and quite a number of gentlemen of Washington, among whom were the Hon. Mr. Woodbury, Amos Kendall, J. S. Skinner, Hon. H. L. Ellsworth, O. B. Brown, Elisha Whittlesey, &c. Mr. Garnett, who was re-elected President, delivered an able and interesting Address, for which, and the official account of the proceedings of the Society. The reader is referred to pages 94 and 102 of this paper.

The proceedings of the Society were conducted very harmoniously; but to us, the enthusiasm, the *esprit du corps*, which seems so necessary to the accomplishment of all great undertakings dependant on voluntary action, seemed to be wanting. It must be remembered, however, that this is but the beginning; and that the interest which the success of the Society should certainly create, will be more deep, in proportion as its existence and acts are more extensively known.

CORRECTION.—At the request of J. M. GARNETT, Esq. we notice the following errors in his article on the "Agriculture of Virginia," published in the volume of Transactions of the N. Y. S. Ag. Society. Page 174, line 5 from bottom, for "soubriquet," read *sobriquet*. Last line of same page, for "wisely," read *readly*. Page 176, line 22 from top of page, for "vogets, animal," &c. read *vegeto-animal*. As an excuse for the many errors which may be found in the "Transactions," it is proper to say, that owing to the late period at which the copy was given to the state printer, he was under the necessity of hurrying it through the press, without giving proper time for a careful and thorough reading of the proof-sheets.

In the May No. of the Cultivator, page 80, in the description of Fig. 47, instead of seven and a half by eight inches, read seven and a half by six inches; and instead of three inches wide, it should read wider, and strike the ends from the same center.

ORCHARDIST'S COMPANION.

This work, which should be in the possession of every lover of fine fruit, or who is engaged in the cultivation of fruit trees, has completed its first year, and the quarterly numbers with their beautiful colored engravings are now before us. "The Orchardist's Companion," is published by A. HOFFY, editor and proprietor, Philadelphia, and is "devoted to the history, character, properties, modes of cultivation, and all other matters appertaining to the fruit of the United States." It is embellished with engravings of the various kinds of fruit, drawn and colored in the best manner, with a portion of the leaves and branch, so as to enable the orchardist to determine accurately his fruits. The "Companion" is published quarterly, in the quarto form, each number containing 12 engraved fruits, with ample descriptions and directions. The price is two dollars a number, or seven dollars per year in advance. An edition with only three colored engravings in each number, but the same in every other respect with the other, is afforded at \$1.00 a number, or three dollars per year in advance. Such works as the "Orchardist's Companion," are not only extensively useful, but are honorable specimens of the progress of the arts in this country. There is not a 'centre table' in the United States, that would not find the "Orchardist's Companion" a more tasteful and appropriate ornament, than the flimsy annuals which have so long usurped them. It is a publication that deserves a liberal patronage; and its list of subscribers shows the names of great numbers of our most influential and respectable citizens. Let the "Companion" go ahead. We will with pleasure forward the names and money, for any of our friends who may wish it sent to them.

RUTA BAGA FOR COWS.

ONE of the most serious objections to the culture of the turnep, especially in dairy districts, is the unpleasant flavor which this root communicates to milk and butter; and various means have been proposed to prevent these disagreeable results. One of the most successful that we have tried, has been feeding the roots immediately after milking, so as to have as long a time as possible intervene between the feeding and the milking. In a late number of the Cabinet, we find a letter from Samuel West of Chester, Pa., describing his mode of feeding, which, while it is somewhat similar to ours, is said to totally obviate all taste of the turnep. He states also that the same method is applicable to garlic, so common and disagreeable in some parts of the United States:

"After a sufficiency of first rate upland hay, I allow to each cow about half a bushel of ruta бага turneps finely cut up—always remembering to strip the cows clear of milk before feeding with the turnep, and in the morning, feeding with a different kind of food, viz: cut hay, with a little Indian meal, or other mill feed. By this process there will be no taste of the turnep, either in the milk or butter, so objectionable to many; and by it you will have a full flow of milk from your cows, and butter of a fine, rich, spring like quality, seldom obtained in the winter season."

SUGAR FROM THE MAPLE.

THE quantity of sugar that may be made from the maple, when the trees are good, and the process well managed, is generally much underrated. Trees growing in open fields will produce more sugar than those in the forest; and the sap from trees tapped many years, is much richer, than from those tapped but few times. We find in the papers some notices of this tree, and its products, worthy of record, as proving that the north has within its limits, the means, if desirable, of producing its own sugar.

Mr. Harriman of Warner, N. H. tapped a sugar maple 2½ feet in diameter, which in eighteen hours gave eighty quarts of sap, from which was made seven and a half lbs. of sugar. A pail full of sap was sufficient for one pound of dry sugar.

A red maple, (*Acer rubra*), has long been an object of interest at Ossipee, N. H., on account of its size, and the quantity of sugar it produced. Its circumference near the surface was 28 feet, and it continued nearly the same size for 17 feet, when it parted into two branches, one of which was four feet in diameter, and the other of nearly the same size. This magnificent tree was lately blown down in a storm, taken to a saw mill, and the product in inch boards is 3300 feet, besides nine cords of wood from the branches, &c. The owner has made forty lbs. of sugar in a year, from this single tree.

Notices of New Publications.

DR. DANA'S MUCK MANUAL.

In our brief notice of this work last month, we intimated our intention of again recurring to it, for the purpose of giving our readers a more full account of the principles advanced, and the manner in which they were supported, than could be done at that time. We do this the more willingly, both from the intrinsic value and importance of the Manual itself, and because it is the first contribution, which can properly be named as such, made by American philosophers to the cause of agricultural science. Circumstances have demanded that in many respects the processes of cultivation should be different in this country from those pursued in Europe. The climate, the crops, the seasons, have contributed to give a distinctive character to American agriculture, and this difference is destined to become still more marked; but the principles which govern the germination of the seed, which regulate the nutrition and growth of the plant, which control the maturity and perfection, are and must be the same every where; and hence the various questions which come under the name of scientific agriculture, have not received the attention here, they have in the old world. Admitting that the principles and laws of vegetable nutrition and growth were as well established and defined, as they are uncertain and obscure, the application of these principles would be a legitimate object of investigation; but while all inquirers can as yet be considered only on the threshold of the temple of nature, the field open to the competent observer both here and there, must be considered abundantly ample. We trust the success of this attempt, will induce Dr. D. to continue his explorations.

The method pursued by Dr. Dana in the Manual, is very direct and perspicuous. His leading object appears to be, to convince farmers that in "Muck," that is in decayed vegetable matter, they have all the elements of fertility, and that there is no soil which with proper care and cultivation cannot be made productive. The work is divided into sections, which contribute greatly to facility of reference, and prevention of repetition in the facts or arguments.

Dr. Dana first establishes some general principles in regard to the action of soils and salts in producing vegetation. This has led him to consider their structure geologically as well as chemically; and in our remarks we propose to follow him in his investigations, allowing him to speak for himself as far as possible. Dr. Dana remarks—"Referring rocks to their origin, they are divisible into two great classes. 1st, those formed by fire. 2d, those formed by water. This division relates both to their origin and their distribution. In their origin, all rocks are truly igneous or by fire. In their distribution they are aqueous or by water. This is the only division necessary to the farmer. It is the division taught and demanded by Agricultural Geology."

From this view of the origin of rock, and the consequent general sameness in the chemical composition, he derives his first principle in Agricultural Chemistry, "ONE ROCK AND CONSEQUENTLY ONE SOIL." As a necessary consequence of this principle, in his further inquiry how rocks and soil affect vegetation, he lays down his second principle—"THAT ROCKS DO NOT AFFECT THE VEGETATION WHICH COVERS THEM."

We apprehend that this principle, understood in its broadest sense, and without restriction, would be erroneous. Rocks do certainly exert a powerful influence on the soil that covers them in many cases, but this is owing to their physical condition, and not to their chemical constitution, in which sense Dr. Dana would intend to be understood. Temperature is the great agent which affects the vegetation of any strata or region, according to Dr. Dana, and this is depending on the physical composition, rather than the chemical constitution of the rock. In this view of the subject, there will be little room for dissent to this principle. Take, for instance, a north and south section of western New-York. This would pass over strata of sandstone, lime rocks, gypsiferous shales, clay shales, &c. in repeated alternations, and the soils and the crops grown on them, are as well marked as the strata themselves. Those on the limestone strata are the most productive as a general rule, and these are also the warmest and driest; two qualities owing to the rock below, which, allowing water to pass off freely, give as a necessary consequence a higher temperature to the soil than belongs to that on the more retentive portions of the district. If soils were always formed of the rocks immediately below them, there would be more room for disputing the disposition; but this every farmer knows is never the case, and consequently the chance for the chemical constitution of rocks affecting vegetation above them is much lessened.

To show that it is temperature that governs the distribution of plants, and not the soil, Dr. Dana gives some interesting tables respecting the northern limits of some of the cultivated grains, such as barley and wheat, thus proving that it is not the average temperature of the year, or of the winter, but the temperature of the time employed in the growth of the plant, or of the summer, that determines its "habitat." North latitude 70° is the highest northern limit of barley; and latitude 64° the highest northern limit of wheat. Barley grows the highest of the cereal grains, and a little beyond the line of this grain, is the northern boundary of the potatoe.—"This belt," says Dr. D. "is the zone between agriculture, and fishing and hunting; between races of men subsisting on animal and on vegetable diet, and those

whose chief food is animal." It is somewhat remarkable that in ascending mountains, the grains cease to grow at heights which correspond to the latitude marking the isothermal line, or their northern limit. Thus on the Swiss Alps the grains cease at the following heights:

Wheat	at 3,400 feet corresponding to lat.....	64°
Oats	at 3,500 " " " " " " " " " " " "	65°
Rye	at 4,600 " " " " " " " " " " " "	67°
Barley	at 4,800 " " " " " " " " " " " "	70°

From these facts, and the singular uniformity or identity in the chemical composition of the soil, Dr. Dana adduces his third principle, viz: "ROCKS HAVE NOT FORMED THE SOIL WHICH COVERS THEM." The evidence of this is so ample, and so open to every observer, that we shall pass it without further remark.

Dr. Dana's second chapter treats of the chemical constitution of rocks, and is one of the best expositions of this subject we have yet seen. "Seven simple minerals compose all rocks, viz: quartz, mica, feldspar, hornblende, talc, serpentine, carbonate of lime. Other minerals are found in, but these seven compose all rocks termed geological formations, and which form the crust of the globe." Of the 55 elements which chemistry has detected, 14 are found in rocks. This includes the elements of water, oxygen and hydrogen. Without these only 12 remain. Of the earthy and metallic, eight; of the volatile and combustible, four. These elements of all rocks may be divided into four pairs—the alkalies, potash, soda; the alkaline earths, lime, magnesia; the earths, silica, alumina; the metals, iron and manganese. We have not room to follow our author through the instructive details of this chapter; but the man who wishes to become acquainted with the combinations which these elements assume, will do well to consult it carefully.—The following table will show the constitution of the simple minerals:

	Silica.	Alumina.	Lime.	Potash.	Manganese.	Oxide of Iron.
Feldspar,	66-75	17-50	1-25	12-00	0-75	0-75
Mica,	50-82	21-33	9-56	9-08	9-08	9-08
Hornblende,	43-69	12-18	13-63	18-79	7-32	7-32
Talc,	83-02	0-25	0-50	12-75	40-37	1-11
Serpentine,	43-07	0-25	0-50	12-75	40-37	1-11

Thus it appears that silica is the most abundant ingredient in rocks, and alumina is next. "The average of these elements in the most important rocks, is silica 62.79, alumina is 25.15." In the best constituted soils, the proportion will not be found to vary widely from what is here stated, a proof that soils have originated from the decomposition and mingling of the elements of rocks.

The third chapter is devoted to a consideration of the properties and chemical action of the elements of the soil. Here the important part performed by silica in vegetation is clearly developed, and its various combinations with other substances pointed out. The manner in which soils are supplied with lime and potash by the decomposition of rocks is here shown. The composition of granite, composed of two-fifths quartz, two-fifths feldspar, and one-fifth mica, according to Dr. D., is as follows:

Silica,	74-84
Alumina,	12-50
Potash,	7-48
Magnesia,	0-99
Lime,	0-37
Oxide of Iron,	1-93
Oxide of Manganese,	0-12

To show that soils are not exhausted of their lime or alkali, Dr. Dana shows the quantity of each an acre of soil, made from the decomposition of such rock as the above would produce, taking the soil only six inches deep. "The cubic foot of such soils weighs about 90 lbs., or at six inches deep, 45 lbs. The acre at this depth, contains 21,780 cubic feet, which will afford 3,626 lbs. of lime, and 73,311 lbs. of potash, or nearly a ton and a half of lime and 36 tons of potash." The probability of the exhaustion of these substances may be inferred from the following estimate. The straw of a crop of wheat of 30 bushels per acre, will weigh about 5,000 lbs.—Burned, this will yield 220 lbs. of ashes, of which one-fifth is soluble in water, and consists of one-half of that dissolved, of potash. The part not soluble, contains 5.80 per cent of lime. Thus an acre of wheat straw contains 22 lbs. of potash, and 10 lbs. of lime. From these facts Dr. D. deduces his fourth principle, viz: THAT ALL SOILS CONTAIN ENOUGH OF LIME, ALKALI, AND OTHER INORGANIC ELEMENTS, FOR ANY CROP GROWN ON THEM.

When it was stated in Prof. Hitchcock's Geological Report, on the authority of Dr. D., that all soils contained phosphates and sulphate of lime, a principle of great importance to the farmer, it was received with doubt and distrust by many, principally from the fact that many crops, wheat in particular, for the production of which lime is deemed essential, could not be grown on much of the soils of New England. The proofs, however, are abundant. The bones of animals, a great variety of vegetables, contain phosphates and sulphates. All our cereal grains contain them both in the grain and in the straw, and half the weight of bone is a phosphate. On these facts is based Dr. Dana's fifth principle, THAT ALL SOILS CONTAIN SULPHATE AND PHOSPHATE OF LIME.

Dr. Dana's fourth chapter is on the "Organic constituents of soil." "Whenever plants die, their elements are again subject to the laws of affinity, and during the decay of vegetables, they return to the earth not only those substances which the plants had taken from the soil, but also those which have been elaborated by their living structure. The former are silicates and salts, or the inorganic elements; the latter are the organic parts of the soil." The organic elements of plants "are the product of substances once endowed with life;" and "the

great difference between the two divisions, is this, that while the inorganic are simple combinations of two elementary substances, the organic are combinations of three or four elements, but never less than three." From the fact that plants are always composed of several elements, Dr. D. draws his sixth principle, THAT SOIL, CONSISTING CHIEFLY OF ONE SILICATE, OR SALT, IS ALWAYS BARREN.

Dr. Dana's seventh principle in agricultural chemistry, is based on the fact, "THAT ONE BASE MAY BE SUBSTITUTED FOR ANOTHER, IN AN ISOMORPHOUS PROPORTION," or the law by which one element may be substituted for another, which produces a like form. For example the alumina in alum may be replaced by iron; the form will not be changed, but its chemical properties and relations will be totally destroyed. This fact of substitution is of the highest practical value, since where one element happens to be exhausted in a soil, the organic acid of the plant, will appropriate another, and thus be enabled to perfect all its functions.

The great mass of organic matter in soils, is a well defined chemical compound, called by Dr. Dana *geine*, by Liebig and Berzelius *humus*, and by Braconnet, Boulay and others *ulmin* or *ulmic acid*; and consists of carbon, hydrogen and oxygen. The product of decayed organic matter; the name is of very little consequence to the farmer, so long as he remembers that without the presence of this substance in the soil, plants cannot grow and perfect their seed; that without *geine* or *humus*, crops are never raised. Dr. Dana well remarks, "that *geine* is as essential to plants as food to animals; and so far as nourishment is derived from the soil, *geine* is the food of plants." On this is based his eighth principle, "THAT *GEINE* IN SOME FORM, IS ESSENTIAL TO AGRICULTURE."

So far as the value of *geine* is concerned, it matters nothing at all to the farmer, whether he believes with Liebig that plants derive their nourishment almost entirely from the air, or with Dana, Johnson, and others, that some portion of it is taken up by the root; since in the first case, the carbonic gas absorbed from the air is generated by the *geine*, and in the last, is furnished directly to the roots of the plants from the decomposing *geine* of the soil. It is the changes which this substance undergoes, the various combinations it forms with the several alkalies and acids with which it comes in contact, which gives it its great importance in the estimation of the agricultural chemist and farmer. Vegetable mold is a mixture or compound of soluble *geine*, with earths and metals, mixed with soluble and insoluble *geine*. In rich mold there is usually a large portion of free organic matter. With lime, alumina, iron, &c. *geine*, or *geic acid*, forms compounds called salts or *geates*. These salts are soluble in water, and are of the utmost consequence to the farmer. Into the chemical history of *geine* or *humus*, we cannot here enter. Those who take an interest in the matter, will find a good account of it in the appendix to chapter IV. It is sufficient to state that Dr. Dana prefers the term *geine*, to any of the others that have been given this substance.

"The elements of soil, are silicates, salts, and *geine*. The silicates as such have no tendency to re-act on each other. They are gradually decomposed by the action of the air. The great agent in this action is carbonic acid, which gradually combines with the alkaline base of the silicates, and the potash and soda are converted into soluble salts, whilst the silica and alumina remain." Dr. Dana's exposition of the action of the class of salts is admirable, and shows how the effect of the carbonates upon soil is produced. From their action as explained, is drawn the ninth principle; CARBONIC ACID, AND THE CARBONATES, DECOMPOSE THE EARTHY, ALKALINE AND METALLIC SILICATES OF THE SOIL.

Dr. Dana gives an interesting account of what the French call action of presence, or catalysis. It is well known by chemists, that the mere presence of a body, influences the nature of a second body, so as wholly to change its properties. For example, starch is converted into sugar by oil of vitriol. The acid suffers no change. It acts by mere presence, and converts the starch into sugar. A distinguished German chemist maintains that all decomposition takes place in obedience to a third substance acting by its presence. So the vital principle of plants, let it be called life, electricity, galvanism, acts by its presence and gives power to enter into new combinations. A living, growing plant, in soil, will in one year effect a greater amount of decomposition, than all atmospheric influences can in many years.

To determine how salts or mineral manures act, is one of the most important inquiries of the chemist or the farmer. It is not enough to say they are stimulants; that "they are to plants what condiments are to the food of man." "Some general principle is demanded which will enable the farmer to say what the action of a salt will be; and whether he may apply one or less than one per cent of it, without risking his crop." This general principle, according to Dr. Dana, is found in the following, which is his tenth principle of agricultural chemistry. THE BASE OF ALL SALTS, ACTS EVER THE SAME IN AGRICULTURE. PECULIARITY OF ACTION, DEPENDS ON THE ACID OF THE SALT. On this principle, the Dr. lays great stress, and we think deservedly. Lime for instance, which forms the base of a vast variety of salts, can never act otherways than as lime; but when united with phosphoric acid, as in bones, or with sulphuric acid, as in plaster of Paris, very different results ensue from its application to plants. Our readers are aware of the theory of Liebig in regard to the action of gypsum, which he supposes to arise solely from its absorption of the ammonia of the air and water, by which soluble sulphate of ammonia is formed and appropriated by the plant. The

theory is a beautiful one, but does not appear to us perfectly satisfactory, as not accounting for all the facts connected with its action. Were this absorption of ammonia the sole cause of the efficacy of plaster, it would be equally efficacious on all soils, and in all places, but farmers are well aware that such is not the fact. That this action on ammonia takes place, cannot be questioned; that this is the *only* cause of the efficacy of gypsum, is what is doubted. Dr. Dana's account of the action of plaster, we shall here give in full, not only as showing his views of the matter, but also of the changes which a salt of lime can produce in soil:

"Suppose plaster or gypsum has been applied; the effects of a bushel of plaster per acre, or even the four-hundredth part of one per cent, produces effects on alluvial land which shows its good results, as far as the eye can reach. It seems almost incredible that so minute a portion of a mineral can act at all, yet how beautifully is this result explained by the principle, that plants decompose, first, this salt; the lime, for plaster is sulphate of lime, then acts on geine, which is thus rendered soluble; while the acid, the oil of vitriol or sulphuric acid, immediately acts on the silicates. If silicates of alkali exist in the soil, we have now changed sulphate of lime for an alkaline sulphate, and if silicate of lime is also present, the potash or alkali having been exhausted, plaster of Paris is formed anew. So long as there is in the soil organic matter, this action continues and will continue, till the plant has gradually withdrawn for its own use the acid of the salt which was introduced. Fertility depends wholly on salts and geine. Without the last, there is no fruit formed; without the salts, the geine is locked up or insoluble. The base of the salts acts always in one uniform way; its action is wholly upon geine; the acid of the salts acts upon the silicates."

Dr. Dana goes on to show at length, and with much ability, the manner in which lime, ashes, &c. perform their part in the growth of plants, and we think that any one who will study this part of the volume, will agree with us, that one of the worst things a farmer can do, is to sell his ashes from the farm. To convince those who allow their leached ashes to be lost, of the waste of valuable matter they sustain, we quote the following:

"A bushel of good ashes contains about 5½ lbs. of real potash. In leaching ashes, generally about one peck of lime is added to each bushel of ashes, and as it loses no bulk during the operation, a cord of leached ashes contains about the following proportions, allowing the usual proportion to be leached out, or 4½ lbs.

Phosphoric acid,	117 lbs.
Silica,	146 "
Oxide of iron,	17 "
" of manganese,	51 "
Magnesia,	119 "
Carb. of lime, including that added in leaching,	3,072 "
Potash combined with silica,	80 "

In chapter VI. Dr. Dana commences the discussion of the subject of manures properly so called, and very properly says that the first requisite to successful farming is manure. Manures are composed of geine and salts; and by their elements are divided into three classes: "1st, those consisting chiefly of geine. 2d, those consisting chiefly of salts. 3d, mixed, or consisting of salts and geine. * * * By far the greater part of manures belongs to the third class. Such are all composts, all stable manure, and all the usual products of the cow yard and hog pen. In discussing this subject, therefore, there ought to be some starting point, some standard common measure of value, to which can be referred all manures, and by which their worth can be determined."

For this standard of value, Dr. Dana selects "pure fresh fallen cow dung," as one of the most common manures, and of which the chemical constituents have been well ascertained. Dr. Dana's analysis of this manure gives the following proportions of water, organic matter, and salts, in 100 lbs. of cow dung:

Water,	83-60
Organic matter,	14-60
Hay,	1-275
Bile, and resinous and biliary matter,	1-175
Albumen,	1-14
Silica,	1-05
Sulphate of Potash,	1-07
Geine of Potash,	1-08
Muriate of Soda,	1-23
Phosphate of Lime,	1-12
Sulphate of Lime,	1-12
Carbonate of Lime,	1-12
Loss,	99-56
Loss,	14

This agrees very well with analyses made by European chemists, some giving more water and others less, while the other substances do not vary essentially, or more than was to be expected from the difference in food, &c. The composition of cow dung may be stated as follows:

Geine,	15-45
Salts,	9-5
Water,	83-60

Or in 100 lbs. of cow dung, only one-sixth is of any value in agriculture. 100 lbs. of fresh cow dung affords five-eighths of a lb. of pure ammonia, or 2½ lb. 2 oz. of carbonate of ammonia of the shops. A bushel of fresh cow dung weighs about 86 lbs. and this contains in round numbers 2½ lbs. of salts of ammonia, potash, soda, and lime. Dr. Dana found by actual experiment, that a single cow, an average producer of the article in question, her food and water being accurately weighed, consumed and produced in seven days as follows:

Water,	612 lbs.
Potatoes,	87 "
Hay,	167 "
Total of food and drink 866 lbs.; and voided, from her liquid evacuations, 599 lbs. of dung. This cow pro-	

duced from 24 lbs. of hay and 12 lbs. of potatoes, daily, about one bushel or 85.57 lbs. of dung. One cow therefore forms

Daily,	Or per year,
12 lbs. geine,	4,400 lbs. of geine,
3 oz. phosphate of lime,	71 " bone dust,
14 oz. plaster of Paris,	37 " plaster,
14 oz. of chalk,	37 " lime, marble or chalk,
	94 " common salt,
	18 " sulphate of potash.

Estimating the nitrogen of dung as ammonia, a cow in a year produces 188 lbs. of pure ammonia, or 550 lbs. of carbonate of ammonia of the shops. The great value of dung for agriculture it is clear from this statement, depends on the ammonia and the geine; and from the statements of Dr. Dana, as well as those of Liebig, it is evident that the salts of lime, which are the annual product of one cow, are sufficient to supply the grain and straw of a crop of wheat of 20 bushels per acre, on three acres. Dr. Dana's inquiry into the use and origin of the nitrogen of dung, "that organic element to which must be attributed its chief enriching quality," will well repay perusal. It was found by experiment, that the formation of nitrogen depended in a great degree on the kind of food given the animal, and that the dung of a cow fed on meal and water, gave of nitrogen 2½ per cent, or five times as much as common cow dung. This accounts satisfactorily for the fact of the dung of fattening animals being richer for agriculture than that of store animals.

Having thus determined the agricultural value of cow dung as a standard, Dr. Dana proceeds to compare with this the dung of some other animals. Of these, the first is the horse. As compared with cow dung, horse manure gives in 100 parts,

Geine,	27
Salts,	0-96
Water,	71-20

The quantity of geine then in horse dung is nearly double that in cow dung; the salts, which are mostly phosphates of lime, magnesia, and soda, are about the same. As in the fermentation of manures, the heat is usually in the proportion to the formation of ammonia and nitrates, the greater product of these substances in horse dung, may in part account for its value as a heating material in hot-beds, &c. Horse dung contains in 100 parts, 3.24 of carbonate of ammonia.

Dr. Dana ranks in his analysis, hog manure and night soil together. He states the composition of the latter in its purest state as follows:

Water,	75-3
Geine,	23-5
Salts,	1-2

"Night soil, including that of the hog, contains in 100 parts,

Geine,	23
Salts,	1-2
Carbonate of Ammonia,	15-32

Here we have the three most common substances used as manures; cow, horse and hog dung, including night soil, reduced to geine, salts, and ammonia, or its equivalent nitrogen; and we believe experience fully proves that their value is in direct proportion to their power of producing ammonia. Experiments made by authority, in Prussia, proved that on soils which, manured with cow dung gave a product of seven for one sown, if manured with horse dung the yield was 10, and if with night soil, 14, which is about the proportion the nitrogen in these manures bears to each other. We think therefore, that Dr. Dana is fully justified in saying "that the nitrogen present in a manure expresses its true value."

"Among the mixed manures, poudrette and guano, rank next to night soil. Poudrette is night soil, partly dried in pans, and mixed up with variable quantities of ground peat and plaster. Its value will depend on the circumstance whether its ammonia is saved or lost in the manufacture. If sulphate or muriate of lime is added before drying, then the volatile carbonate of ammonia, will be changed into sulphate of ammonia, and sal-ammoniac." Besides these soluble salts of ammonia, the peat retains a portion of the gaseous ammonia, and its geine is rendered more soluble. Plaster should always be mixed with night soils, to prevent the escape of ammonia. Guano, which is coming into use in England as a manure, is the excrement of sea birds. It is found in vast beds from 60 to 80 feet thick, on some islands in the South Pacific, near the coast of Peru. Of the various salts of ammonia it contains some 33 per cent; and of the phosphates about 15 per cent; and of soluble organic matter 12 per cent; facts which sufficiently indicate its origin and its richness.

We have not room to follow Dr. Dana through his analysis of other animal matters used as manures, such as hair, horn, wool, &c. &c. but must not omit to state that the Dr. furnishes incidentally, a solution of a fact which has caused some bad blood, and some hard swearing, viz: the greater hardness of the beard when compared with other hair, when he states that hair contains from one-half to two per cent of bone earth, the beard far exceeding in quantity any other variety.

It will not do to pass over Dr. Dana's account of soot so easily, for this most valuable manure is entirely overlooked by the greater part of our farmers. There are few substances so rich in geine and salts as this, as the analysis of Dr. D. will show:

Geine,	30-70
Nitrogen,	20
Salts of lime, chalk, &c.,	25-31
Bone dust,	1-50
Salts of potash, soda and ammonia,	6-14
Carbon,	3-85
Water,	12-80

The salts contained in 100 lbs. of soot, are equal to

those in one ton of cow dung; and its nitrogen in a similar comparison, is as 40 to 1. "Mixed with water in the proportion of six quarts of soot to a hoghead of water, it has been found a most efficacious liquid in the culture of green house plants," and we can add our testimony to its value, when applied in proper quantities to any ordinary crop. We have, however, known it used on tender garden plants to excess, destroying many of them.

The sections devoted to bone dust, slaughter house offals, urine, spent ley, &c. will be read with advantage by every farmer; certainly all those who wish to have a reason for the action of such substances as promoters of vegetation.

But to the practical farmer, one of the most interesting sections of the book, will be that in which it treats of artificial manures. There is scarcely a farm in the country in which there are not deposits of vegetable matter in the shape of peat, swamp muck, or pond mud. Such substances are composed mostly of geine or humus, soluble and insoluble, and have been hitherto almost entirely neglected, when in fact they are the very elements of fertility. These deposits, dug out and thrown upon soil, produce little beneficial effect, unless subjected to previous preparation; hence the little value placed upon them. Agricultural chemistry has led the way to their use, and now peat bogs, or swamp muck, is justly regarded as a source of wealth. An analysis by Dr. Dana, of 10 specimens of peat from different localities, shows the average composition of this substance. Soluble geine, 29.46; insoluble geine, 55.03; total geine, 85.39; salts and silicates, 15.59. Pond mud is less rich in geine, containing more salts and silicates; but still when prepared is an excellent manure.

It is a singular fact that fresh dug peat of average quality, scarcely differs in its elements from cow dung, 100 parts containing,

Water,	85
Salts of lime,	0-60
Silicates,	0-60
Geine,	14

A cord of 103 bushels of cow dung and of peat, will compare in composition as follows:

	Weight per cord.	Soluble geine.	Insoluble geine.	Total geine.	Salts of lime.
Dung,	9,269 lbs.	125	1,295	1,416	92
Peat,	9,216 "	876	673	1,549	91

"The salts and geine of a cord of peat, are equal to the manure of one cow for three months. * * * And the power of producing alkaline action on the insoluble geine of peat, is alone wanted to make it good cow dung." The great point in rendering peat useful to the agriculturist, is to supply that lacking element, ammonia; since without this, cow dung would not be as valuable as peat in its natural condition. Abundant experiments prove that the addition of an alkali to peat, is all that is required to effect this change; and the calculations into which Dr. D. enters to ascertain the quantity of alkali necessary, are extensive and minute. Fortunately the question is only one of economy in the use of alkali; as a larger quantity than is demanded to render the geine soluble is no injury to the land. Dr. Dana states, that

59 parts of ammonia, are equal to
58 " soda or white ash, or to
73 " 1st quality pot or pearlash, or
86 " 2d " pot or pearlash.

100 lbs. of fresh peat require 2 lbs. of soda ash, or 3 lbs. of pot or pearlash, to render it equal to cow dung. Peat in drying, loses three-fourths of its weight; hence the quantity or per cent of alkali for dried peat must be proportionably increased. Every cord of fresh dug peat requires 92 lbs. of pot ash, or 61 lbs. of soda, or 16 to 20 bushels of common house ashes will effect the change which the peat demands. Mr. Phinney of Lexington, a high authority in agricultural matters, has found by experience, "that a cord of green dung converts twice its bulk of peat into a manure equal in value to itself; that is, a cord of clear stable dung, composted with two of peat, forms a manure of equal value to three cords of green dung." The dung furnishes the requisite alkali, and ammonia in increased quantities is the result.

The value of peat when combined with ashes, either new or spent, does not however depend on theoretical speculation alone; and it is in combination with ashes that this substance quickly proves its importance as a fertilizer. Mr. G. Robbins of Watertown, Mass., an extensive manufacturer of soap, has one of the finest and most productive farms in that vicinity; and although he keeps eleven horses, four cows, and one hundred hogs, he has not for four years used a shovel full of their manure, or that made by any animal, upon his farm. His animal manure is carefully saved and sold, while his spent barilla ashes, mixed in the proportion of one part of ashes to three of peat dug up in the fall, and mixed in the spring, forms a manure that keeps his land in the best possible condition. The following extract will show how easily this manure may be prepared:

"The best plan for preparing the artificial manure would be to dig the peat or swamp muck in the fall; in the spring of the year let this be mixed in the proportion of 30 lbs. of potash, 20 lbs. of soda ash, or 8 bushels of common house ashes, to every cord of fresh dug peat, estimating this by the pit dug out, and allowing nothing for shrinking. If ashes are used, they may be mixed in at once with the muck, but if potash or soda is used, they must be dissolved in water, and the pile evenly wet with the solution. The pile is then to be well shoveled over, and used as other manure. But it has been found by experience that the peat may be dug in the spring; immediately mixed with the alkali and used forthwith. If spent ashes are used to prepare this muck, add one cord of spent ashes to three cords of peat or swamp muck."

Animal matters convert peat or muck into manures with great rapidity. "It has been proved by actual experiment, that a dead horse can convert 20 tons of peat into a valuable manure, richer and more lasting than stable dung; a barrel of alewives is equal to a wagon load of peat." Urine is a most prolific source of ammonia, and Dr. Dana says: "that the urine of one cow for a winter, mixed up as it is daily collected, with peat, is sufficient to manure half an acre of land with 20 loads of manure of the best quality." Can a stronger argument be offered to farmers, why they should fill their barnyards and hog-pens with muck, to detain and become saturated with the ammonia of the urine?

Dr. Dana seems inclined to question the correctness of that part of Prof. Liebig's work which affirms the existence of volatile carbonate of ammonia in rain water. That ammoniacal salts exist in both rain and snow water is not questioned, the existence of the free carbonate only is doubted. Dr. Dana's explanation of the presence of these salts is ingenious, and as the subject is one which, since the publication of Liebig's volume, has excited much attention both in Europe and in this country, it will undoubtedly ere long receive a full elucidation. In treating of the advantages of irrigation, Dr. Dana dwells at length on the composition of water and its use in promoting vegetation. From a series of careful experiments, he estimates the quantity of salts and geine which were carried past Lowell, in the river Merrimack in 1838, at 839,181 tons. In river water "the dissolved salts are sulphate and geate of lime, and the fine deposit occurring after the water has settled, is composed of one-half of geine, and the remainder of salts of lime and silicates."

Dr. Dana's concluding chapter is on the "Physical properties of Soil," in which he has embodied much useful information in regard to their character and treatment, but for which we must refer the reader to the work itself, having already much exceeded the limits we usually allow to such subjects. The importance of the matters treated will be a sufficient apology. There can be no question agitated of more vital interest to the farmer than that of manures, and the best means of preparing and using them, will always command his attention. The volume treats plain subjects in a plain manner, and our notice we have endeavored to conform to the evident design of the author, that of writing so as to be understood.

TRANSACTIONS OF THE NEW HAVEN HORT. AND AG. SOCIETIES.

This is a neat pamphlet of some 80 pages, the examination of which has afforded us no little gratification. It is filled with proof that the farmers of the flourishing county of New Haven are determined not to be outdone in their agricultural and horticultural improvements, by any section of our country. Open as the great market of New-York is to their productions, the farmer, and particularly the gardener, has every inducement to make the cultivation of roots and vegetables, a prominent part of his business, and we are glad to say this has been done with much success. The influence of these societies has been extensively felt in originating and spreading a taste for rural embellishment; a love of fruit and flowers; a knowledge of improved stock and superior implements; and in this way communicated an impulse to the agriculture and horticulture of that county, which cannot fail to be permanent. The publication of these Transactions, will materially aid the same laudable purposes.

"THE WESTERN SHEPHERD."

This is the title of a pamphlet of 40 pages, received from G. Thorburn, Esq. from the pen of George Flower, of Albion, Edwards co. Ill. The object of the pamphlet is thus fully set forth in the title page. "The object of this little work is to call public attention to the necessity of adding wool to the staple articles of produce in the states of Illinois, Missouri, and Iowa. Containing instructions for the breeding and the proper management of sheep, and their pastures. Showing, also, the peculiar adaptation of the western prairies for such purposes; and giving particular directions for preparing and packing wool for market." On the topics here indicated, although necessarily brief, we find many valuable hints indicating a familiar acquaintance with the matter, and which can hardly fail of being useful among the farmers of the west. The facts stated in the following remark should not be lost sight of by the sheep grower. "In England, mutton is the article of first importance, and wool the secondary. In America, wool is first, and mutton is second. The flock which produces the best wool, is the flock that pays the western farmer the best. To choose aright that flock, to keep it well, and propagate it rapidly, is our decided interest." We regret to learn that the wolves, (there are two kinds, the Black wolf and the Prairie wolf,) are the most serious drawbacks on the sheep grower of the west; but this is a difficulty which an increasing population, or if necessary, a legislative bounty, will gradually do away.

MR. COLMAN'S FOURTH REPORT.

Several inquiries having been made for Mr. Colman's Fourth and final Report on the Agriculture of Massachusetts, we have succeeded in obtaining a few copies which are for sale at this office, at \$2.00 each. It is a large octavo volume of over 500 pages, and should be in every farmer's library.

GREEN MANURES.

WHERE plants in a state of growth are plowed in on land for the purpose of enriching the soil, they are properly termed green manures, and this method of manuring has in many instances been successfully practiced. But one kind of green manure has been extensively used in this country, and that is clover; and the benefits of this are so great and certain, that it is believed the practice might be advantageously extended to other plants. Plants contain, already elaborated, all the elements necessary for the formation of others; not perhaps in precisely the same proportions, but always more or less of the essential parts. Reason then would teach the farmer that growing plants might be readily converted to effective manures, and experience in this case fully supports the theory.

The constituent elements of plants are woody fibre, starch, sugar, and gum, and these are compounds of carbon, hydrogen, and oxygen. The fixed and the volatile oils, wax and resin, are formed of carbon, with the elements of water and an excess of hydrogen. Vegetable gluten and albumen contain nitrogen, and it is never wholly absent in plants. It follows that for the growth of plants, the presence of carbon and nitrogen, or substances capable of yielding these elements, as well as water, iron, lime, and other inorganic matters, must be furnished. Green manures do this more readily than almost any thing that can be provided, as the use of clover for wheat clearly proves. It appears from the writings of Xenophon, that the value of green manures was early understood, for he recommends that crops be sown for this purpose, and declares they "enrich the soil as much as dung."

The value of sea weed as a manure is well known, and arises from the organic elements it contributes to the soil. Dr. Browne of Suffolk, in a letter quoted by Prof. Johnston, in his essay on the use of salt, gives a striking instance of this. "In October, 1819, a violent gale of wind drove to this part of the coast, an unprecedented quantity of sea weeds; these were eagerly scrambled for, and from my greater vicinity to the beach, I collected twenty-seven cart loads, each as much as four horses could draw; and although other persons deposited their collections in their farm yards, to rot among their other manure, yet I spread mine, fresh and wet, upon little more than an acre of bean stubble, instantly plowed it in, and dibbled wheat upon it, on the 6th of October. I then sowed the adjoining land with three bushels per acre, manured it with fifteen loads of farm yard manure per acre, and dibbled it with wheat on the 15th of November. The result was, that the sea-weeded portion gave three times the produce of any equal part of the field." The effects of sea-weed as a green manure, it appears from the reports of Prof. Jackson and Mr. Colman, have been in Rhode Island and Massachusetts, equally decided.

Next to clover, buckwheat has been more used in this country as a green manure, than any thing else. It is evident that to produce the best effect as an enricher of the soil, the plant used as manure should have a rapid growth, as in that way more of its bulk is drawn from the atmosphere than the earth. The farmer finds that the best wheat follows a luxuriant growth of clover, that the best corn is grown where the thickest richest turf has been turned, and that the crop is generally in proportion to the vegetable matter present in the soil. It has appeared to us, however, that where large quantities of green manure were used, the presence of some alkali was necessary to correct any acidity which might ensue, and hence ashes when used in such a connection have proved of essential service.

Mr. Knight was a strenuous advocate of the use of green manures, and some of his experiments to prove their value, were most ingenious and decisive. As the result of his investigations, in one of his communications to the Hort. Society, he says, that what he has stated is sufficient to show "that any given quantity of vegetable matter, can generally be employed in its recent and organised state with much more advantage than when it has been decomposed, and no inconsiderable part of its component parts have been dissipated and lost during the progress of the putrefactive fermentation." This remark is unquestionably correct, although it will depend much on the manner of decomposition, whether any considerable part of the elements of the plant are dissipated. Green plants decomposing in the open air, must lose a large portion of valuable matters, but if covered with earth, such loss cannot take place. Combinations take place, and the escaping gases are retained for the future plants.

It is evident that green manuring can only be used profitably in a warm climate, or during the warmest part of our seasons. In Italy, the lupine is most generally used for plowing in; but in colder latitudes buckwheat has proved the best plant for green manure. It gives a large amount of vegetation, grows rapidly, and comes to maturity, or the state in which it is most valuable for manure, at a time when the heat is greatest, and the perfect decomposition insured. Plants used for green manure, should be plowed down when they have come into flower, as the experiments of Sir H. Davy, prove that at that time they have least exhausted the soil, and contain the most soluble matter.

In common with many farmers, we think the practice of turning under a large growth of clover for the purpose of manure, is injudicious. Our experience would prove that it is better to feed it off on the land. The large quantities of animal salts deposited on the soil with the manure dropped, which are, as is well known, the most efficient agents in vegetation, will more than com-

pensate for what may be carried off in the flesh of the animals fed. Sheep are the stock we should prefer, and sheep, clover, and wheat, are associated in the minds of most grain growers at the present time.

SUGAR FROM CORN—OIL FROM LARD, &c.

WE are indebted to our friend, H. L. ELLSWORTH, of Washington, for a pamphlet containing the address of Mr. Webb, of Delaware, before the Nat. Ag. Society, on the important subject of making sugar from corn; and also the methods described by Mr. Morfit of Philadelphia, and Mr. Smith of New-York, of making Stearine from tallow, oil, lard, &c.

The subject of making sugar from corn is truly a national one, and we are gratified to find the public taking so much interest in the matter. As described by Mr. Webb, in his address, there would appear to be nothing difficult or tedious in the manufacture; and it seems to be very satisfactorily ascertained that any quantity of sugar, equal to that of the cane, may be made at a not greater expense than that. Mr. Webb states that the ears may be removed from the plants intended for sugar, but he thinks the better way will be to so increase the quantity grown on an acre, as to prevent the formation of ears, a result which every farmer is aware will ensue from too close planting. But in any event, the formation and perfection of the ear must be prevented, or very little sugar will form in the stalk. There appears little doubt that the principle laid down by Mr. Webb, will be found the true one; viz: "that every pound of starch found in the seed of a plant, has required for its production, at least one pound of sugar in the form of sap."

The richness of the juice of maize in sugar, is truly surprising, and it is strange that public attention has not before been directed to it, in preference to the beet. Mr. Webb says—"the raw juice of maize, when cultivated for sugar, marks 10° on the saccharometer, while the average of cane juice, (as I am informed,) is not higher than 8°, and beet juice not over 3°. From 9½ quarts (dry measure,) of the former, I have obtained 4 lb. 6 oz. of syrup concentrated to the point of crystallization. The proportion of crystallizable sugar appears to be larger than is obtained from cane juice in Louisiana."

The process of grinding is very simple. Three upright cylinders from 20 to 40 inches long, are secured in a strong frame; the centre one is moved by a sweep, and cogs on this, working in cogs on the others, move the other rollers. In grinding, the stalks pass through on the right side of the middle roller, and coming in contact with what is called the dumb returner, are directed back so that they again pass the rollers on the other side of the middle one. A cut is given of the front view of such a sugar mill. Corn juice like that of the cane, must not stand after it is prepared, as the incipient fermentation soon commences. One hour is the extent it can stand, and even this is attended with danger, although less in the case of corn than in that of cane. The process of manufacture, is as simple as that of grinding.

The juice after coming from the mill stood for a short time to deposit some of its coarse impurities; it was then passed through a flannel strainer, in order to get rid of such matters as could be separated in this way. Lime water, called milk of lime, was then added in the proportion of one or two table spoonfuls to a gallon. The juice was then placed over a fire, brought nearly to a boiling point, when it was carefully skimmed before ebullition commenced. It was then boiled down, rapidly removing the scum as it rose. It was sometimes necessary, when not sufficiently clear, to pass it a second time through the strainer. To determine when it was sufficiently done, some of the syrup was taken between the thumb and finger, and if, when moderately cool, a thread half an inch long could be drawn, it was at once poured into broad shallow vessels to crystallize.

The experiment of making corn sugar will doubtless be tried by many the coming season, and the address of Mr. Webb will furnish the necessary information for a successful issue to the enterprise.

The preparation of stearine, although of much importance to the country, is depending on so many chemical combinations and manipulations, that it is not probable it will become an object to families, and that part of the pamphlet we shall pass over, remarking that those who feel an interest in the matter, will be glad to find the several processes as well described as is done in the account before us.

LARGE YIELD OF CORN.

In a late number of the Louisville Journal, we find an account of a corn crop raised by Mr. Young, of Jessamine co., a crop exceeding we believe any on record in the country. The editor says: "Mr. Young exhibited to us a certificate of several respectable gentlemen, certifying that in a lot of five acres, he had produced one hundred and ninety-five bushels of corn to the acre. The corn was measured, and there is no doubt of the correctness of the estimate. This was on a piece of bottom land, and the committee were of opinion that Mr. Young's crop on the upland was better than that which was measured." Mr. Young pens his stock on the land intended for corn, and manures it in no other way. This land is broken up in the fall, in the spring struck out in squares three feet each way, from eight to twelve corns dropped in each, which at the hoeing is reduced to four stalks to each hill. As soon as the corn is up, a large harrow is run over the whole ground, regardless of harrowing the corn up, which seldom happens. Nothing but the plow is used in the cultivation; after the harrow, no hoe or cultivator is brought to the field.

Answers to Inquiries, &c.

THE YELLOW LOCUST.

MESSRS. EDITORS—Will you please inform me through the Cultivator, whether the yellow locust which grows about Syracuse, and other parts of western New-York, is the kind best for timber, where strength and durability are wanted; and if not, which is the best kind, and where the seeds can be procured, and at what price?

Van Buren, Onondaga co. N. Y., 1842. J. B.

The yellow locust cultivated at Syracuse, and in other parts of western New-York, is the kind most valued for timber, and for which such high prices are paid at the ship yards of our country. There are one or two other kinds cultivated, the honey locust, (*Robinia viscosa*), and the rose locust, (*R. hispida*), but these are of little value as timber: the first being grown for hedges, and the latter as a flowering or ornamental tree. The wood of the yellow locust when very young, is not remarkable for its durability, but it soon assumes a firmness which renders it invaluable where durability and strength are required. It can scarcely be propagated too extensively.

SUN FLOWER OIL.

We have had some inquiries as to the method of making sun flower oil; and the quantity a bushel of seed will make; and the uses to which it can be applied.

1. Method of making. The same as that of linseed, except that the seed must first be hulled, or its hard envelop taken off. This is done by machinery with great ease. If ground with the hull, not half the quantity of oil can be obtained as when it is hulled. Any press that will extract the oil of linseed, will do for sun flower seed.

2. Quantity per bushel. Mr. Mann made some experiments which are recorded in the N. E. Farmer, in which only half a gallon per bushel was obtained, and the project was abandoned. He did not hull the seed, hence the failure. C. A. Barnitz, near Baltimore, on the contrary, obtained a gallon of fine oil from a bushel, but his seed was hulled, and none was lost by the saturation of the dry covering. When well managed, a gallon may be counted upon with certainty.

3. Uses. It makes a very good oil for lamps, burning clearly and without offensive smell. It is found to be well adapted for painting, spreading smooth and drying with facility. For the table, most prefer it to olive oil, being cheaper, and having a more agreeable flavor.

We may add here, that the quantity of seed produced on an acre will vary much, having ranged from 20 to 75 bushels. The editor of the Baltimore Farmer thinks that the average on good corn land may be stated at 50 bushels.

We have no data from which to answer the inquiries of our correspondent at Canton, in regard to the quantity of oil produced by hemp seed. Hemp seed oil possesses many of the qualities of linseed oil, and doubtless might be extracted with equal facility.

SUBSOIL PLOWING—TRENCHING.

EDITORS OF THE CULTIVATOR—Will you please explain the term subsoil plowing, so much used of late in papers on tillage. How is it done? I understand it to mean the plowing up the soil deeper than usual; but how much deeper, and how is it accomplished?

Trenching, also needs explanation. I understand it to be digging up the soil first on one side of a field, in the form of a ditch as deep as required, say two feet; then filling up that with the soil taken from another ditch dug in like manner, by the side of the first, and so on through the field; mixing manures or compost with the soil as it is thrown into the ditches. Is this right?

Why does not some Albany dealer keep a carefully selected and improved stock of agricultural implements for sale? Some are to be found it is true; but there is no one whose assortment is general, or who furnishes only the best. Prouty and Mears, Barnaby and Mooers side hill, Ruggles, Nourse and Mason's, and Howard's plows, the best kind of drill barrows, cultivators, churns, cheese presses, models of hay presses, bee hives, &c. &c. in short, all truly valuable implements, and the latest improvements should be found at such an establishment.

THOMAS.

Subsoil plowing is intended to move the earth to a much greater depth than can be done with the ordinary plow, and to effect this without bringing the lower earth moved to the surface. It renders the surface more dry, gives a greater range for the roots of plants, admits a free passage to water and air, and gradually converts the sterile subsoil into fertile mold. The implement is a strong iron plow, with a stout share, but no moldboard. It is generally used by first turning a furrow with the common plow, and the subsoil plow follows in the furrow so made, moving the earth to the depth of from ten to twelve inches, breaking up the dense soil or hard pan, but not throwing it upon the surface; and the earth so moved is covered by the next furrow slice of the common plow. The subsoil plow requires a strong team. The depth will of course depend on the two plows; if the common plow cuts six inches in depth, and the subsoil ten, then the earth is moved to the depth of sixteen inches.

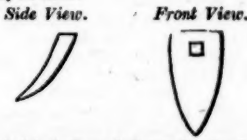
Trenching has for its object the inversion of the soil to the depth trenched; placing the original surface soil at the bottom, and then by manuring, or the slower effect of the atmosphere, converting the whole earth moved in to the best of soil. "Thomas" is right as to the manner

of doing this. It is very little practiced in this country, except in the preparation of gardens, or for the cultivation of particular plants.

The suggestions of "Thomas," as to the necessity and propriety of an agricultural warehouse in this city, are deserving attentive consideration. Situated as Albany is, with such facilities for communication with all parts of the country, it is scarcely possible that an establishment meeting the requisitions pointed out by our correspondent, should not succeed. The benefits conferred on the agricultural public by the agricultural warehouses in Boston, are immense; and there is no point where one could be more generally useful and effective than in this city. We hope the hint of "Thomas" will not be lost.

PLOWING IN GEORGIA.

GENTLEMEN—On very rocky soils, such as we in this section of the country have to plow, the bar share plows, such as your magazine exhibits, seem to be wholly inapplicable. All your premium plows are bar shares in various grades of improvement. Here they use the coulter plow, the bull tongue, or any sort of wrought iron or steel plow shaped thus:



Plows of this kind, I am informed, (for I am a recent emigrant hither,) are the only ones that can be used on tenacious clay and rocky soils, and hilly withal. Our soil here is filled with broken rocks that strew or penetrate the surface, generally weighing from five to twenty pounds, and sometimes fifty. The premium plows exhibited in the Cultivator, may doubtless be applicable to every surface of ground, as well plain and sandy, or clayey, free from rocks; but experience seems to teach the agriculturist here, that the single pointed plow above depicted, is the only one that will penetrate the ground here, and impose less additional work on the horse. These plows are drawn each by a single horse. The harrow and roller are here unknown, it being supposed they could not be used or moved among the rocks.

Farmers here may be suffering under the ignorance of the age, and the bar share plow and the harrow may be adapted to the culture of this part of the country. The question is but one, and can be simplified: On tenacious, but fertile rocky clay fields, what plows are the best to break ground, and cultivate the Indian corn? And can the harrow and roller be used with profit on such soils?

J. J. FLOUNOV.

Wellington Farm, Jackson co. Ga., April, 1842.

We have abundance of soil at the north very similar to that described by our correspondent, and we find no difficulty in cultivating it with our plows, and in fact it cannot be well done with any other. What Mr. F. calls rocks, would in New England be called pebbles or stones, and a soil so constituted would be treated somewhat as follows: The largest stones or rocks would be at once removed and made into walls, and then the plow and harrow would be used as though there were no stones in the field. It is true, our plow would require more team, but the whole surface would be moved, the plowing more effectual, and the crop proportionably better; at least experience in our stony districts would justify such expectations. The roller cannot be used with much profit where the surface is covered with stones, but unless very large, the harrow is here never dispensed with. We have seen many a field, the surface covered with stones both loose and fast, of the sizes mentioned by Mr. F., plowed effectually and easily with a single pair of horses; and we think our correspondent, after removing the largest stones or rocks, would find no difficulty in treating his soils in the same manner.

POUDRETTE—SOILING.

"MOYALLERO" makes some inquiries as to the process of making poudrette at the city manufactories of that article, and says, "My inquiries, therefore, are not merely as to the process, materials, &c. employed in the New-York factories, but it extends also to the best method which farmers have, or can employ in the manufacture of poudrette."

We have before said in answer to inquiries, that we are unacquainted with the details of the processes adopted in the city manufactories; but it is certain those methods are not adapted to the means of the common farmer. The great object in the conversion of night soil into poudrette, is to prevent the loss of the ammonia, a substance to which the nitrogen of plants appears to be owing, and which is of so much consequence, that it is confidently stated the value of any manure may be estimated by its nitrogen. To prevent the escape of ammonia from the night soil, plaster is mixed with it before, and while drying, and ground peat thoroughly dried is also used to a considerable extent. The farmer, to manufacture poudrette, has only to mix plaster with the night soil in sufficient quantities to prevent the formation or escape of ammonia, and the addition of the peat not only renders this powerful manure more capable of equal distribution, but in itself furnishes a valuable manure, and an excellent absorbent of any gas that may escape in the preparation. By adding the plaster, the volatile carbonate of ammonia is changed to sulphate of ammonia, and is thus secured for the use of the plant. The value of city prepared pou-

drette must depend on the skill and honesty of the maker, but the presence of peat is no proof that the article is not of the best kind.

There is another kind of animal offal which in Paris, is converted into one of the most effective manures; we allude to that of the slaughter-house, and which is mostly lost in this country. These offals are boiled into a thick soup, then made into a stiff paste by stirring in powdered or sifted coal ashes, and drying the mass. All signs of putrefaction pass away with the mixture of the coal dust, and this poudrette is as free from all offensive smell as pure garden mold. This preparation is the "animalized coal" of French agriculture, and is a capital manure.

"Moyallero" adds—"Sometime since I heard that a few New England farmers were trying the experiment of keeping their cattle up in the yard, the whole year round,—of in fact, not pasturing at all, but mowing the grass for them daily, when large enough. Can you inform us as to the result? Or whether such a course is any where pursued, and with what success?"

Quite a number of such experiments have been made in this country, and in most cases have been successful; at least so far as to show that a given quantity of land would keep a much greater number of animals the year round under a system of soiling, than it would in pasture or meadow in the ordinary way. Some of the experimenters estimated that the additional manure made and saved, would pay the expense of attendance. The high price of labor, and the abundance of land, however, in this country, or perhaps still more, the force of old habits, has prevented the adoption of the soiling system to any extent in the United States; but there can be no question that where circumstances render it desirable, soiling may be practiced with profit and success. In England and Germany it is common, and the system is on the increase.

TOAD FLAX.

"MESSRS. GAYLORD & TUCKER—Growing in our lands there is a noxious weed; and we wish to know what will kill it. We allude to that plant called toad flax or snap dragons. [*Antirrhinum linaria*.] If you can let us know in what manner it may be destroyed, you will have additional claims on the gratitude of the

DUTCHES CO. FARMERS."

At the west, we have had no acquaintance with this pest of the farmer, and are entirely unacquainted with any particular mode of destroying it. Wherever it prevails, it is very destructive in wheat fields; and where it has long been known, as in some parts of Massachusetts, it is pronounced one of the most obstinate and difficult weeds to destroy. There is, perhaps, no plant, however, that thorough tillage, and a careful prevention of seeding, will not eventually destroy; and on this course we should rely for the destruction of the toad flax. If any of our readers are advised of a better and more expeditious way, they will confer a favor on the public by letting it be known.

LIVINGSTON CO. PLOW.

F. H. HILL, Esq., P. M. Madison C. H., Va., says, "Several planters in this county wish to get the Livingston co. plow, of which you have given a description in your paper. We wish to know the particulars; whether the moldboard, share, and all is cast, or whether the share is wrought, &c., and what will be the expense of getting one to Fredericksburg, Va?"

We are unable to answer all these inquiries, but the makers of the Livingston plow we presume will do it satisfactorily. Mr. Hill may be addressed by letter.

CULTIVATION OF THE CRANBERRY.

We have had several inquiries in relation to the cultivation of this fruit, the demand for which is rapidly increasing in our markets. Few things are more easily grown than the cranberry, and the cultivation is very simple. Nothing more seems necessary to success than bog or peat earth; if the bogs are sandy, so much the better, but too much wet is fatal to the hopes of an abundant crop. On the sandy coasts of Massachusetts, where wet bogs or meadows abound, the cultivation of the cranberry is increasing, and pieces of ground hitherto of no value, now yield handsome incomes. It is found they grow well on these sandy bogs after draining, and the following is stated to be the method pursued by Mr. Hall, of Barnstable, who has for some time produced them in great quantities:—"If the bogs are covered with brush it is removed, but it is not necessary to remove the rushes, as the strong roots of the cranberry soon overpower them. It would be well, if previous to planting, the ground could be plowed, but Capt. Hall usually spreads on beach sand, and digs holes four feet asunder each way, the same as for corn; the holes are however deeper. Into these holes sods of cranberry roots are planted, and in the space of three years the whole ground is covered." Mr. Kenrick remarks, that "although a moist soil is best suited to the plant, yet, with a suitable mixture of bog earth, it will flourish, producing abundant crops, even in any dry soil." Loudon asserts that Sir J. Banks, who obtained this plant from America, raised in 1831, on a square of 18 feet each way, three and a half bushels, equal to 460 bushels per acre. Any man who has a bog swamp may raise cranberries, by draining it so that the surface at least shall be dry, either inverting the surface, if hard enough, with a plow, or covering it with

sand, and planting as above directed. When well set, the yield of an acre will not be much, if any, short of 200 bushels.

INQUIRIES.

"MESSRS. EDITORS—I wish to solicit advice from you or some of your worthy contributors, on the following points: What course is to be observed the first and second years, in commencing a farm, in order to gain? Is it commendable to purchase the stock designed for the subsequent year, the first year, and feed that stock on your pocket, until your own corn or other food matures? If not, or if so, why? How many acres of good ground can a good hand cultivate properly, in a year, without injury? *Leesburg, N. C., 1842.* CAMDONIAN."

Will some of our southern friends be kind enough to reply to the queries of our correspondent?

We cannot furnish "A Patron and Friend," of Bloomfield, Ky., the information he solicits. It would be improper for our columns. By application to a competent veterinarian, his wishes can doubtless be gratified. This notice would have appeared sooner had not the application been accidentally mislaid.

PLASTER.

"THE following is an extract from a letter received from WILLIAM EDWARDS, Esq. the founder of the extensive tanneries in Greene County, which have added so much to the wealth and prosperity of that part of the state.

"From personal observation, and a limited experience, I am led to believe that plaster of Paris is the best substitute for manure that can be applied in all this region of our country. A knowledge of the best mode of using it—the quantity per acre—the period of applying it—the kinds of crops most benefited by it—and in short, every thing relating to its use, published in your most interesting paper, would be highly beneficial and acceptable to the farming community, whether derived from your own experience, or from the pens of experienced contributors."

We have for more than thirty years, lived in a district where plaster has been extensively used, and where its value is so well understood, that the farmer who declines its use, would be deemed little better than insane. Plaster produces the most effect when sown upon land, and this is generally done by hand. Plowing it in is not generally approved, and our experience would be against the practice. The quantity per acre may be from one to three bushels, but we have received as much benefit from one and a half bushels per acre as from a larger quantity. More, however, will do no injury. The best time for applying plaster is when the grass or other crops have thrown out their leaves in the spring, say in May. Nearly all crops are benefited by plaster; it is applied advantageously on wheat, corn, potatoes, peas, &c., but its greatest effect is produced on the clovers, and its action here is principally relied upon for renovating and enriching the soil. Plaster may be made one of the most powerful of manures by converting it into a carbonate of ammonia, accomplished by the addition of urine until saturation is effected.

NEW-YORK COUNTY AG. SOCIETIES.

CHAUTAUQUE.—The next Fair of this Society is to be held at Westfield, on the 28th and 29th days of September next, for which a handsome list of premiums has been published. T. B. Campbell, Esq. Pres't.

DUTCHESS.—The Society in this county are to hold a Fair in the town of Washington, on the 5th of October next. Henry Staats, Pres't; Geo. Kneeland, Sec'y.

SARATOGA.—Fair to be held at Ballston Spa, on the 4th of October next.

LIVINGSTON.—We have received the premium list of this Society, of which James S. Wadsworth, Esq. is President, and C. H. Bryan, Esq. Secretary, for their next Fair, which is to be held at Geneseo, on the 4th and 5th days of October next.

NIAGARA.—The Society in this county has published a liberal list of premiums, which are to be awarded at their next Fair, but at what time it is to be held the notice does not state.

THE ONEIDA Society hold their next Fair at Rome, on the 12th and 13th days of October next.

ST. LAWRENCE.—At the annual meeting on the 9th Feo., Jonah Sanford, Esq. was chosen Pres't—26 V. Pres'ts were appointed—N. S. Prentice, Canton, Treas., and Ch. Lyon, Oswegatchie, Rec. and J. L. Russell, Canton, Cor. Sec'y. Their next fair is to be held at Canton, Sept. 14.

ESSEX.—An Ag. Society has been organized in this county and the following officers appointed:—Reuben Whallon, Pres't—Reuben Sanford, Samuel Murdock, Gideon Hammond, and Almerin Smith, V. Pres'ts—D. Judd, Treas.—E. F. Williams, Rec., and A. B. Mack, Cor. Sec'ys.

SUGAR FROM CORN STALKS.

JOHN GREIG, Esq. of Canandaigua, President of the Ontario Agricultural Society, to induce experiments in the manufacture of sugar from the stalks of Indian corn, has offered the liberal premiums of \$30 and \$20, for the greatest and next greatest quantity of sugar and molasses made from an acre of land, to be awarded at the annual Fair of that Society, to be held at Canandaigua, in October next.

ANNUAL MEETING OF THE U. S. AG. SOCIETY.

Washington, May 4, 1842.

The Society met to-day at the Patent Office, when a number of delegates from the several states, appeared with their credentials, and the Hon. J. M. GARNETT, of Va., at 11 A. M. took the chair, and J. F. CALLAN, Secretary.

On motion of the Hon. H. L. Ellsworth, a committee of three was appointed by the Chair, to inquire into the expediency of establishing in this city, a periodical, to be devoted to the cause of agriculture, and to be the official organ of this society, viz: Hon. H. L. Ellsworth, D. C., Dr. Eli Ives, Conn., and Rev. J. O. Choules, N. Y. Rob't E. Horner, N. J., T. B. Wakeman, N. Y., Rev. O. B. Brown, D. C., Dr. G. B. Smith, Md., and Hon. H. L. Ellsworth, D. C., were appointed a committee to report the order of business for the future action of this meeting, and the Society adjourned until to-morrow morning.

Thursday, May 5, 1842.

At 9 o'clock, A. M. the Society met at the Patent Office, and proceeded to the election of officers, and upon counting the ballots the following named gentlemen were declared duly elected, viz:

Hon. JAMES M. GARNETT, Virginia, President.

J. F. CALLAN, D. C. Rec. Secretary.

OLIVER WHITTLESEY, Ohio, Cor. Secretary.

EDWARD DYER, Treasurer.

Board of Control.

Hon. H. L. Ellsworth, D. C.

Hon. Elisha Whittlesey, Ohio.

John A. Smith, D. C.

John S. Skinner, D. C.

William J. Stone, D. C.

Vice Presidents.

Maine,..... Hon. George Evans.

New Hampshire,..... Hon. Isaac Hill.

Massachusetts,..... B. V. French.

Connecticut,..... Dr. Eli Ives.

Rhode Island,..... Governor Fenner.

Vermont,..... William Jarvis.

New-York,..... J. B. Nott.

New Jersey,..... E. S. Green.

Pennsylvania,..... Hon. G. M. Keim.

Delaware,..... Dr. J. W. Thompson.

Maryland,..... Thomas Emory.

Virginia,..... Ed. Ruffin.

North Carolina,..... Hon. E. Deberry.

South Carolina,..... Wade Hampton.

Georgia,..... Hon. Wilson Lumpkin.

Alabama,..... Hon. Dixon H. Lewis.

Louisiana,..... Hon. Alexander Mouton.

Arkansas,..... Hon. A. Yell.

Tennessee,..... F. H. Gordon.

Mississippi,..... Hon. R. J. Walker.

Kentucky,..... Chilton Allen.

Missouri,..... Hon. L. F. Linn.

Illinois,..... Thomas L. Hinde.

Indiana,..... Solon Robinson.

Michigan,..... Hon. J. C. Crary.

Ohio,..... Hon. John Hastings.

Dist. of Columbia,..... Amos Kendall.

Florida,..... Hon. C. F. Mercer.

Iowa,..... Timothy Davis.

Wisconsin,..... Henry Dodge.

The Vice Presidents of Virginia, District of Columbia, Maryland, Pennsylvania, and Delaware, are, *ex officio*, members of the Board of Control.

The President addressed the Society in his usual felicitous manner, at the conclusion of which, on motion of Dr. G. B. Smith of Md., the thanks of the Society were voted to Mr. Garnett, and a copy of his address was solicited for publication.

The committee to inquire into the expediency of establishing an agricultural periodical, reported favorably to that measure, and their report was, after some debate, adopted.

The committee on business, reported the order in which the business of the Society should be taken up and acted upon, and advised the amendment to the Constitution as follows, in Art. 19: "and the Board shall have power to prescribe the mode in which it shall be withdrawn," and that a "draft from the President, countersigned by the Recording Secretary," as now required, shall no longer be necessary.

The Board of Control, through its chairman, the Hon. Levi Woodbury, made a written report, in which they state in consequence of the severe pressure of the times, and the Society's limited means, they had declined holding a Fair in the present month, as required by the Constitution; but in the hope that they would find their pecuniary condition much improved during the coming summer and fall, they recommend the holding an exhibition in this city, early in the month of December next.

T. B. Wakeman, Esq. of New-York, from the committee on business, made a report, concluding with the following resolution, which was adopted:

Resolved, That with a view to holding an exhibition under the auspices of the Agricultural Society of the United States, in December next, in the city of Washington, a committee of two be appointed from each State and Territory, and the District of Columbia, whose duty it shall be to ascertain how far the agricultural and scientific societies of the country will unite in the proposed fair; and that this committee meet in Philadelphia, at the U. S. Hotel, on the 6th day of July next, at 5 o'clock, P. M., to decide upon the expediency of holding the contemplated exhibition. It shall also be the duty of this commit-

tee in co-operation with the Board of Control, to make all the necessary arrangements for this first annual fair, and to associate with them such other persons as they may think necessary in furtherance of this object, all of whom together, shall constitute the Board of Managers to conduct the exhibition to its final conclusion.

The Chair appointed the following gentlemen to select the general committee above, viz: Dr. Eli Ives, Conn.; Thaddeus B. Wakeman, N. Y.; Rob't E. Horner, N. J.; Dr. Gideon B. Smith, Md.; J. F. Callan, D. C.; Thomas Crux, Va., and Hon. R. J. Walker, Miss.; who reported the following committee:

Maine—Hon. F. O. J. Smith, Hon. E. H. Allen.

New Hampshire—Hon. Isaac Hill, Hon. L. Woodbury

Massachusetts—B. V. French, Hon. G. N. Briggs.

Vermont—Wm. Jarvis, Hon. Hiland Hall.

Rhode Island—Christopher Rhodes, Sol'n Townsend

Connecticut—Dr. Eli Ives, Hon. J. H. Brookway.

New-York—Thaddeus B. Wakeman, E. P. Prentice.

New Jersey—R. E. Horner, C. S. Olden.

Delaware—Dr. Jas. W. Thompson, John Jones.

Pennsylvania—D. Landreith, Geo. M. Coates.

Maryland—Hon. J. D. Jones, Gov. Geo. Howard.

Virginia—Rev. Jesse H. Turner, Thos. S. Pleasants.

North Carolina—Rev. S. Weller, Hon. E. Deberry.

S. Carolina—Hon. J. C. Calhoun, Hon. W. C. Preston.

Georgia—Hon. Lot Warren, J. A. Merriweather.

Ohio—Hon. John Hastings, Thos. Affleck.

Tennessee—F. H. Gordon, Hon. W. B. Campbell.

Alabama—Hon. W. R. King, Hon. D. H. Lewis.

Louisiana—Hon. E. D. White, Hon. Alex. Mouton.

Mississippi—M. W. Phillips, Hon. R. J. Walker.

Kentucky—Chilton Allen, Hon. P. Triplett.

Missouri—Hon. L. F. Linn, W. H. Saunders.

Illinois—Thomas L. Hinde, Hon. Z. Casey.

Arkansas—Hon. W. S. Fulton, Hon. A. Yell.

Michigan—Hon. J. E. Crary, Hon. J. M. Howard.

Florida—R. W. Williams, Hon. C. F. Mercer.

Wisconsin—Hon. Henry Dodge.

Iowa—Timothy Davis, A. C. Dodge.

Dist. of Columbia—Hon. H. L. Ellsworth, J. Pierce.

Mr. Adam Lindsly, of the District of Columbia, exhibited a piece of black Satinet, containing 23 yards, manufactured in his family in this city.

Mr. T. B. Wakeman, offered the following resolution, which was unanimously adopted:

Resolved, That the thanks of this Society are due to the Hon. Henry L. Ellsworth, Commissioner of Patents, for the agricultural statistics contained in his annual report to Congress, and that the continuance of such statistics is worthy the patronage of the national government.

SILK IN MASSACHUSETTS.

One of the most satisfactorily conducted experiments in the silk culture which we have seen, was made in the family of Mr. Barton, Gill, Mass., and reported by Mr. Colman, in his 4th report. The management was under the direction of Miss Barton, who not only fed the worms but reeled the silk. Mr. Deane, the narrator, says:—"Partly at my suggestion, the details of this experiment were accurately noted. The weight of the eggs hatched was 2½ oz. The worms spun in 28 or 29 days. The amount of leaves consumed was 2,500 lbs. The weight of cocoons was 248 lbs. The weight of reeled silk was 20 lbs.; and the amount of labor was one month; that is, the first half was greatly less than that, and the last days something more. The building used was the vacant corn house, which of course should not enter into the list of expenditures, and the fixtures were merely temporary shelves of rough boards, and a few hurdles to contain the worms, during their three first ages. Neither should there be any charge for eggs, as a great quantity were produced for future use. The expenses therefore stand as follows:

Labor, one month, \$12.00, board do. \$6.00,.....	\$18 00
2,500 lbs. of mulberry leaves, 80 cts. per 100 lbs.,.....	12 50
Gathering cocoons, camphor for curing do.....	2 80
Reeling 20 lbs. silk at 75 cts. per lb.....	15 00
Interest on reel and fixtures,.....	1 00
	\$49 30

Income.	
20 lbs. silk, for which Mr. B. has refused \$8 per lb.....	\$160 00
The state bounty of 15 cts. on 248 lbs. of cocoons,.....	37 20
" " 50 cts. on 20 lbs. reeled silk,.....	10 00

	\$147 20
Deduct	49 00

Profit, including bounty,.....	\$98 20
Without it,	\$1 20

In this case, the cost of cultivation was less than \$2.50 per lb.; from which the state bounty was to be deducted. Miss Barton was able to reel without difficulty, one and a half lbs. of silk. During the three first ages, the worms were fed with chopped leaves; during the two last, on branches. The worms passed each entire age without the removal of their litter, which service was only performed immediately after moulting. In what other way, we may ask, could a young lady make as profitable a use of her time, as was done by Miss B. in feeding these industrious laborers? And we may hope that such examples will be followed, until such instances of successful industry shall not be as rare as they now unfortunately are.

INDIAN CORN.

We make the following extract from the New Encyclopedia of Agriculture, by C. W. Johnston, Esq. article Maize. The only apology for the singular error into which the writer has fallen, is to be found in the fact, that

Indian corn cannot be grown to any extent in Great Britain; and this should have induced him to examine more authentic sources, when speaking of one of the most important bread plants on the globe. If there is one plant more than another that requires a rich warm dry soil, it is corn, and it will flourish in no other. There is another error or misprint as to the great number of ears. Few plants give a greater number of grains, but many produce more ears:

"This valuable plant produces a much larger number of ears, which abound with a greater proportion of whole-some mealy matter, than any European grain; and as Indian corn prospers in low, swampy situations, where it tends to dry up the superfluous moisture, and to render the ground firm, it might perhaps be advantageously cultivated in some of the southern counties of Britain."

FARMER'S CLUB AT BUTTERNUTS.

We have received the following note from our correspondent, F. Rotch, Esq. of Butternuts, Otsego co. "You will be gratified to learn that our young men have formed themselves into a 'Farmer's Club,' for the purpose of debating the principles and practices in Agriculture; and I am surprised how much latent thought and talent is brought out in this way, and with what readiness its members are willing to join in the debate. It is our young men who are to carry on the work of improvement, and give to agriculture her proper rank. I now want to hear of the establishment of a public lecturer. It cannot be but that such an one would be profitably employed in the service of any well established periodical. I only want the advantages of reading, of education, and of science, clearly exhibited to the farmer, as all-important to the advancement of himself and his farming operations: and then give me an agricultural school, and I should be content that with such an impetus the ball must roll on."

We are indeed gratified to hear of the formation of such an association as the Butternuts "Farming Club," and trust that it will be exemplar and parent of many others. Experience has proved that familiar conversation and debate, has been one of the most effectual means of extending agricultural knowledge, and some of those clubs that commenced a few years since in England with beginnings less auspicious than the one under notice, have now become most influential associations, diffusing intelligence and the proper agricultural spirit among the farmers of large sections of country. Such, we cannot doubt, will be the result of similar spirited and well conducted Clubs here. We wish our young friends every success in their undertaking.

ASHES ON COTTON—CUTTING OFF SPAVIN.

We make the following extract from a letter received from S. W. Cole, Esq. of Wadesboro, North Carolina.

"This Co. (Anson,) is a fine farming section, and is the only county in the state well adapted to the raising of cotton. Here we raise a large quantity for this section of the union, and our planters are devoting more care to the improvement of their plantations. The best manure we have for cotton is ashes. My mode of putting it on is this: I run a scutcher furrow, then from a basket or box scatter about 35 bushels per acre in the furrow thus opened, and then with a dagon make the cotton ridge. I tried ashes and cotton seed as a manure last year, in the same field, and used the same quantity of each. The ashes made far the best cotton; it took an early start, looked green and fresh, whilst that planted on the ground manured with cotton seed, looked yellow a long time, and never recovered the check it received at first coming up.

Did you ever know the spavin cut off from a horse? If not, I can inform you that a few years since one of my carriage horses was badly spavined, so much so as to be almost useless. I had him thrown, then cut the skin immediately over the spavined bone in the shape of a Δ then peeled it down until the bone was exposed. I then took a chisel and with a blow or two from a mallet I soon cut off the bone. The horse soon recovered; it has now been four years since, and not the least return of the disease."

The inquiries of our correspondent, have been answered in the private letter as requested.

AGRICULTURE IN GEORGIA.

We make the following extracts from a letter of our correspondent T. Forster, of Walker co. Georgia.

"We have here a fine country, rich land, good water, excellent climate, convenient markets, and handsome profits in farming. I have been in your state, the yankee states, the middle, western and southern states, and have found no section of the country presenting more advantages than this. We are getting a dense population. Until recently the spirit of agriculture had scarcely reached us. I proposed to several of my neighbors to take agricultural papers, and five copies of the Cultivator, with some other papers, were taken. The change produced is very perceptible, and the spirit of inquiry and improvement is awakened. To me, I have no doubt the Cultivator has been worth one hundred dollars the past year. I left the practice of medicine a few years since, and turned farmer. I confess I knew but little about the business and made but slow progress, when I commenced taking the Cultivator, and am now succeeding to my satisfaction. * * * Last year I took two copies; one for myself, and one I kept on a recruiting tour; the plan proved an excellent one; has been of service to many who could not take a paper, and has added several

to your list of subscribers. * * * We are in great want of all sorts of farming tools, and threshers, straw cutters, and corn crackers, &c. Are those of which figures are given in the Cultivator, patented? [Yes, most generally.] If not, such descriptions of the best of them as would enable a mechanic to make them, would be of great benefit to us. If some good mechanic would come to this country and make all such things, and keep a tool warehouse, I think he might make a fortune."

CANADA THISTLE.

MR. MILLS of Elbridge, Onondaga co., sends us the following directions for the destruction of that pest of the farmer, the thistle. Although too late for adoption this year, we hope it will not be forgotten another, but receive a full and fair trial.

"Take any piece of stubble land, pea or oats stubble is preferable, as it has less sward. I then if needful manure it well, and plow it carefully on the 20th of April. About the 15th of May, I drag it thoroughly. On the 25th of May, I cross plow, and in the middle of June I again drag it, being careful to harrow crosswise of the furrow. On the 28th or thereabouts, I plow and sow one bushel of buckwheat to the acre. At this season, buckwheat will vegetate very rapidly, and in two weeks will completely cover the ground. The thistle, by former plowings being checked, the buckwheat will in ordinary seasons thoroughly subdue them. I have tried various methods of destroying the thistle, and I find this the best."

SUMMER FALLOW AND PLOWS.

SUMMER fallowing is a most important part of the farmer's work, and it is one which should never be attempted, unless it can be fully done. Where the soil is deep, permeable, rich, and in particular free from all weeds, summer fallowing may be dispensed with, as a single deep plowing with a careful inversion of the surface, followed by the harrow, roller, &c. will fit the earth for the reception of the seed. But such farms are few, and on all others, summer fallowing can alone be relied on for the proper tillage of the soil. If the soil is properly constituted, there is not the least danger of over tillage; and in summer fallowing the true rule seems to be to plow till there is not a root, plant, or seed left in the ground to vegetate or interfere with the crop. Treated in this way the soil is thoroughly cleaned, its particles are divided and exposed to atmospheric influences, and the decomposition of the animal matters is facilitated. In this country, we as yet know little of what would be called summer fallowing in England or Belgium; although it is probable an improved agriculture, will render such examples less uncommon among us. June is not too early for breaking up lands, and from this first operation, the plow should be used so as to prevent vegetation of any kind on the fallow.

Let our farmers this year in breaking up their fallows, try some of the new plows, constructed on scientific principles and offered for their use. The difference in ease of labor and neatness of execution, between Ruggles, Nourse & Mason's Worcester, or Moore's side hill plow, and those in general use, cannot be appreciated by the farmer until they are tried. We have one of the first kind, received from the makers last fall, and this spring have not only given it a fair trial ourselves, but given our neighbors the privilege; and it is pronounced one of the very best implements in ease of draft, and perfection of work, ever used on our farms; and we think those who want a first rate plow, will hardly do better than to purchase one of the Ruggles, Nourse & Mason implements. The difference in draft between these or the Moore's plow, and the common ones, is equal to one-third, a relief to a team which will be sensibly felt.

BOARD FENCES.

OUR correspondent, Myron Adams, informs us that the improved board fence noticed by Mr. Horsfield in our April number, may be found described in the 4th volume of the Genesee Farmer; that some ten or twelve years since, his brother conceived the plan of this improved fence, and "having a saw mill and plenty of lumber, the improved board fence went up rapidly." "Its general appearance was pleasing, not to say handsome." But Mr. Adams adds—"Alas for all human inventions! There came a wind one day, such as doth oft blow over the land, sweeping away the fairy castles of many fanciful builders. Then if Mr. Horsfield had been present, and seen what a wreck of upturned matter lay before him, he would not have hazarded the expression 'that it stood a good chance to outlive the builder.' But my brother is a man of energy, and not to be baffled by one overthrow. A general turn out was called—every man to his post, and the fence stood erect again. Then a strip of oak scantling was driven into the ground, and nailed to the outer edge of each post; but all would not do; fix it any way you would, the wind had the longest end of the lever, and go over it must. But its being easily overthrown was not its only fault. It had also the power of locomotion, and was constantly changing places; and as a live fence, its constant tendency was to create broils by its encroachments. It at length became a vexation beyond endurance, and not a vestige of it now remains. My advice to your correspondent, or any reader who may be disposed to try an experiment with this improved fence, is: that they select a valley so deep that old Boreas with his blasts can never enter, where no ill bred porker shall ever be permitted to rub his lazy sides, and then if built as your correspondent recommends, and well painted, and

the builder thereof is dying with ennui, it may indeed outlive the builder."

DESTRUCTION OF WEEDS.

THERE are few things more essential to the farmer than having a good wheat crop. He gets a better price for his grain, and what is quite as much, he has no fears from injury in using such pure wheat for seed. Weeding wheat therefore is not to be neglected. In a wheat field, every thing that is not wheat is a weed, and should be pulled out at once. Remember that a rank, thrifty weed, chess, cockle, steinkrout, &c. draws sufficient nutriment from the crop to sustain a handful of good ears of wheat, and which belong to them. Thorough summer fallowing is the best eradicator of weeds, but if any escape and spring up, they should be carefully gathered and destroyed, before the seed ripens.

Let no weed ripen its seed on your farm, if it can be prevented. The thistle, johnswort, and similar pests, are left so long in many cases before they are cut, that they mature their seeds, and these do as much mischief as if allowed to stand and ripen, while the labor of cutting them is nearly lost. The best way to treat them, is to rake and burn them as soon as dry. This destroys their power of mischief effectually. It is very bad policy to put weeds, whether cut with your hay or grain, into your barn, as the manure of the yard will be filled with seeds, ready to spring up whenever and wherever it is applied to the soil. There are thousands of farms in this country, the productive value of which, both in grain and grass, is lessened full twenty-five per cent in consequence of the vile weeds with which they are infested. Sowing spring grains, such as spring wheat, barley, or oats, has had a bad effect in extending the growth of weeds, and in many places the system must give way to summer fallowing, or cropping will be impossible.

PRESERVATION OF GRAIN.

A correspondent of the Farmer's Cabinet, says, that "in a late visit to a branch of the Cooper family in New Jersey, he observed that the grain of different descriptions was stowed away in large strong iron bound casks, and in these the wheat, &c. was preserved for any period, no matter how long, without fear of weevil, grain worm, vermin, damp or moldiness. The grain is introduced by a funnel through the bung hole, and when full, the cask is carefully closed, and made air tight, and kept in that state by occasionally driving the hoops. The casks are laid on sleepers so high that a bushel measure can be placed under them, when it is necessary to draw the grain."

It is evident this plan would only answer where the grain was thoroughly dried, as if damp when deposited, entire moldiness, or even decomposition would ensue. In those parts of France, where grain is kept in vaults prepared in the earth, or in the limestone rocks, the grain is fully dried, then the vaults are filled, and afterwards hermetically closed. The suggestion that this method of packing in good casks, where grain is to be transported by sea, and afterwards used for seed, would be preferable to packing in bags, we think just, provided the grain was in a fit state at the time of deposit in the casks, and was aired as soon as possible after its arrival at its destination. Every farmer is aware that but a slight degree of heating is fatal to the germinating qualities of grain, and must be sedulously guarded against, when grain for seed is to be transported to any distance, in a confined or damp situation. Many of the specimens of wheat imported into this country from Europe, have either wholly or partially failed from want of attention to this matter.

COCOONS WANTED.

THE following may interest some of our subscribers, particularly those who have cocoons to dispose of, or who are interested in improved silk machinery:

"GENTLEMEN—You would confer a favor on a subscriber, by informing me where could be got a supply of good peanut cocoons, at reasonable prices. Those would be preferred in which the worm has been destroyed by the fumes of charcoal or steam, as baking is an injury to the silk. I have a brother well acquainted with the management of silk, and preparing it for all kinds of manufacturing purposes. He is getting up the best kind of machinery, and is ready to purchase a quantity of cocoons, and would like to make arrangements with one or more silk growers for a supply. You shall soon hear from me in relation to the machinery about to be adopted; I have no hesitation in saying it is the best that has been manufactured in the States. WILLIAM NAYLOR."

New-York, 554 Broadway, April, 1842.

LARGE PIGS.

MESSERS. EDITORS—I would beg the liberty of sending you the weight of four pigs reared, fattened and killed by M. Vanderlin, Esq. of this town. They were a cross of the Berkshire with the common hog. The four were all of one litter, and 9 months and 8 days old, when killed. They were fed with slop from a tavern house, until Sept. 1st, then they received boiled potatoes, with one bushel of meal made of equal parts of corn, oats and peas, to six bushels of potatoes, until the 20th of December, when killed.

No. 1,	483 lbs.	No. 2,	404 lbs.
" 3,	368 "	" 4,	328 "

Gross weight, 1,583—Average weight, 395½.
Manchester, Vt., Apr 128, 1842. JOHN COCKE.

Original Papers from Contributors.

HILL-SIDE DITCHES.

MESSES. EDITORS—I see in the April No. of the Cultivator, an article from Mr. Easley, recommending the ditching of hill-sides. This is a subject which I conceive to be of great importance to those farmers (and they are many,) who cultivate broken farms. It is a matter of some surprise that the agricultural journals of the country should have so long preserved silence upon it, when it is remembered that few farms are so level as not to be seriously injured by every heavy fall of rain. It is high time that we, of the South especially, were casting about us for some effectual plan to remedy this evil. From my own reflections and knowledge of the course or system of farming, pursued by our cotton-making, pork-buying people, I must say that I know of no plan so well adapted to that system, as the one advised by Mr. Easley. Though some eminent agriculturists have objected to the practice on account of the waste of land which it causes and the ugly appearance which it presents to the eye, yet as I find that it has been recommended on one occasion, by the late Judge Buel, whose authority with me, ranks high, I shall not be deterred from practicing it yet a while longer; preferring rather to lose a small portion of land, than to have my eyes pained at the sight of gullies and soilless hill-sides—a sight by no means calculated to please the fancy, or to make home “more enticing.” I do not commend the taste of those who object to it, as being in bad taste. Let the work be well done—neatly, if you please—and they will have little reason to complain of its unseemly appearance. That which is useful, can never be objectionable to men of sense, where a proper regard has been had to style in its construction or execution.

But to my purpose when I first set out. The grade or fall in the ditch, advised by your correspondent, will not answer. A fall of a half inch to ten feet is not sufficient. It is objectionable on account of the difficulty most farmers would experience in making an instrument sufficiently accurate to indicate that fall; on account of the slow and sluggish motion of the water in passing off when collected, thereby causing the ditches to fill up every heavy rain; on account of the unevenness of our lands generally, as it would require a surface as smooth as a planed plank to operate upon, and lastly, would require too many ditches to pass off the water which is not absorbed by the land. But let ditches of 2½ or 3 inches fall to 10 feet, be judiciously located and properly excavated, and they will preserve land, will not wash into gullies on clay soils, and require but little time or labor to keep them in order. Less grade will do on land, the sub-soil of which is sandy. I prefer to have my ditches wide but not deep—sloping on each side and the bottom concave—of size sufficient to hold all the water, which the heaviest rains would throw into them under any circumstances, for it must be remembered that some lands absorb more freely than others, and that the same land is more or less absorbent according to its condition or the manner and depth of the plowing. If there is science in any one thing in farming, (and that there is I have no doubt,) it is in ditching. That it has many advocates, is a fact so well established, that none can deny it. That it is the best plan yet discovered, for preserving hill-sides, I do not assert, but until I receive “more light” I shall continue to practice it, notwithstanding the objections urged against it. Those who know a better plan, would do the world a favor to publish it, and confer a favor for which unborn generations would thank them.

The most judicious plan of cultivating land, in connexion with the ditches, is to lay off the rows on a level, or as nearly as possible. In doing this, the drilling system must of course be pursued. It is done with the aid of the instrument used to lay out the ditches, with an additional mark upon it, to point out the level at every stride. It is our practice to lay off with the instrument, any number of what we call guide rows, on every hill-side, that the judgment may dictate, and then with the aid of a small measuring stick of the length that we wish to have the rows in width, proceed to fill up the intermediate spaces in such manner as to keep the rows as much on a level as the nature of things will allow. Some planters think it better to give each row an inclination to the ditch, so slight however, as to avoid the washing of the land, by the passage of the water in the rows. This may be the better plan, but I cannot think so. I cannot bring myself to believe it, for it is hardly probable that water can be made to go down hill without taking with it more or less soil, according to the rapidity with which it moves or the force which it acquires in its descent. I have now given you my opinions upon the subject of preserving hill-sides. I shall be delighted, should any more effectual and practical method of effecting their preservation, be communicated through the columns of the Cultivator. The South especially, is deeply interested in ascertaining the best mode of doing it, as from our course of cropping, such lands are in constant cultivation, and of consequence almost literally exhausted, before the timber left upon them, decays.

The people of the South are many years behind the people of the North, in the improvement of their farms, and lamentable to tell, are too much wedded to the old system to depart from it. But a new era has dawned upon us. Agricultural journals are eagerly sought and read, and agriculture is made the theme (as it should ever be,) of conversation among farmers. We have a “Planter’s Club” in our county, composed of many of the most enterprising farmers among us; fine stock of

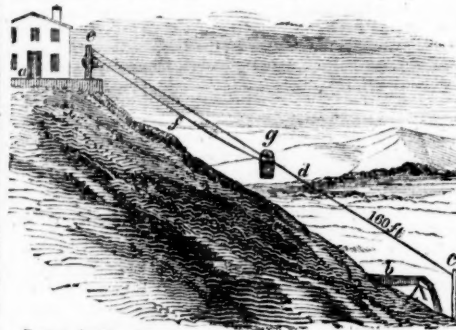
several kinds, particularly of swine, and if I am not much mistaken in the signs of the times, we shall have in a few years more, “improved farms.” I find that the Cultivator has done much good here, though it is objected to by some, on account of its emanation from a northern latitude, and supposed inadaptation to our climate. Northern or Southern, its pages contain matter, in my estimation, of the deepest interest to the farmer every where, and principles which are valuable, and which are as much principles in the South as in the North. I have but little doubt that the Cultivator would be more universally esteemed here, if it had more southern contributors. I do not look upon it myself, as a local paper, and I am persuaded that none who read it regularly, can regard it in any other light than national, in its tone, object and intention.

Hancock Co., Ga. April, 1842.

“A GEORGIAN” is “acceptable,” and we shall expect him to fulfil the promise given in his private note, on the part of himself and friends.

WATER ELEVATOR—(Fig. 56.)

MESSES. GAYLORD & TUCKER—As a partial recompense to the Editors of the Cultivator, I cheerfully remit to you your annual compensation, and I feel also in duty bound to your numerous correspondents to repay, if possible, in part for the instruction, profit and pleasure, they and you have furnished me through the columns of the paper that monthly cheers the fireside, informs the minds, and lightens the toil of some 20,000 of our American yeomanry. I therefore send you a plan of the manner in which I obtain the “ale” which I use. Many like me, I presume, have with great expenditure of breath, flesh, and patience, tugged for years to their kitchen and table, a portion of the crystal spring that gurgled below them, and they probably would be thankful for a cheap, easy, and expeditious mode of raising it, otherwise than by the primitive slip-and-spill method of bringing it by hand. The annexed drawing of a wire railway for elevating water, or indeed any weight up an inclined plane, shows one I have had in operation more than two years, and is found to work most admirably.



Let *a*, in the drawing represent a house at the summit of the hill—*b*, the spring—*c*, a post just below the spring, or two of them, with a roller between, by which the wire can be easily tightened or loosened—*d*, a common good sized wire—*e*, a platform with a post to fasten the wire and windlass, and to raise the wire clear of the inequalities of the surface—*f*, a cord fastened to the pail *g*, which, when water is drawn, is suspended on two hooks attached to a pulley, slide, or even the half of a common east door hinge through the junction holes of which the railway wire passes. This, when the pail is hung upon it, will quickly slide to the spring, where it will immediately fill from the spout, to the end of which a cross spout is fitted which turns the stream at right angles, thus permitting the pail to slide directly to the proper place without touching the spout at all. It is then drawn rapidly up by the crank and cylinder at the top of the hill. My wire is 160 feet, or nearly 10 rods, in length, and I can draw a pail of water with less labor, and in less time than is usually taken to draw a bucket from a well 25 feet deep. The expense for cord and wire was less than two dollars; the “fixens” cost me two or three days’ work. It has been in operation two years without repairing, and is better to me than a first rate well of moderate depth.

When large quantities of water are to be raised, two wires may be drawn, so that one bucket shall ascend while the other is descending. Wells are more expensive, and less useful than this apparatus, to those who are situated like myself. Besides well water, to those accustomed to pure spring water, smacks too much of antiquity, while this corresponds with the railroad, steam-going improvements of modern times. This alone would recommend it to the favor of some, but perhaps to the prejudice and disfavor of more. Therefore test it by experiment, and judge of it by its merits.

WILLSON NEWMAN.

NOTE BY THE EDITORS—Mr. Newman’s farm is situated on the rich diluvial deposit of South Onondaga, on the margin of a narrow valley or depression in this deposit, through which flows the west branch of the Onondaga creek. This deposit, made of limestone, gravel, sand, &c. forms one of the finest soils for cultivation, and varies in thickness from 40 feet to more than 100. Generally it is very difficult to obtain water in this deposit, by digging wells, as its porous nature allows water to flow off very readily. Where, however, the streams have cut down to the clay which underlies the deposit, copious springs of fine water appear, as is the case on the farm

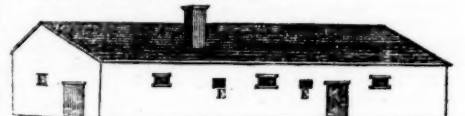
of Mr. Newman. To elevate this water to the level of the buildings and the plain, the water elevator of Mr. Newman appears to be well adapted, as in digging, no water could be reached, until the retentive strata was struck, some 55 feet in depth.

But we would take the liberty of suggesting to our friend Mr. N. whether an apparatus similar to those figured and described at pages 47 and 174 of the 7th vol. of the Cultivator, in which, by means of a wheel and forcing pumps, a constant supply of water is raised to a greater height than Mr. Newman’s buildings above his spring, would not be preferable to his. If, as he informs us, his stock rely on the water of this spring for their drink, we think they would thank him to adopt a plan which should save them as well as himself the trouble of descending and climbing such a hill. The only difficulty would be in the water required to work the wheel; if the spring is sufficient for this, he can water his yard as well as his house easily.

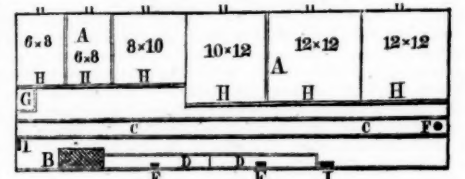
It appears to us that this simple machine of Mr. Newman’s might be made useful for other purposes than drawing water. For instance, why might it not supersede the long and expensive inclined planes sometimes used by builders? Why might it not supersede the labor of the mortar and brick carriers? A wire railway of this kind might pass over streets without danger, and by increasing the length, any requisite elevation be gained.

MR. HALL’S PIGGERY.

EDITORS OF THE CULTIVATOR—Acting on the principle that every farmer may impart some information, whereby his brother farmers may be benefited, and observing the readiness with which you give place to nearly every communication on the subject of agriculture which you receive, I have taken the liberty to forward you a drawing and plan of my hog sty, or in more modern phrase, my piggery, which I erected on a plan partly original, and partly gathered from the pages of the Cultivator. From observations I have made on the course pursued by some other farmers, I have formed the opinion that a course of mixed husbandry, on farms adapted to it, is the most advantageous, not only to the farmer, but also to the farm. I have been gradually striving for the last two years to pursue such a course, and as the erection of a piggery was essential to the business of making pork, which is now an established business on the farm, I determined to erect one; from which I have slaughtered the last fall and winter, 30 hogs, weighing 7,200 lbs., worth at prices for which I have been able to sell, \$360, which forms no inconsiderable item in a farmer’s productions. Still further to enhance those productions, I have taken from the yards appertaining to the building, (what every good farmer knows how to prize,) about seventy heavy loads of manure.



[Front and End View—Fig. 57.]



[Ground Plan—Fig. 58.]

The enclosed drawing, (fig. 57,) gives you a view of the front and west end of the building, which is 56 feet long and 20 feet wide, divided into six apartments for the hogs, as you will observe in the ground plan, (fig. 58,) each of which communicates with a yard in the rear of the piggery, and are designated by the letters A. A; each apartment communicates with the others by doors sliding up and down in a groove. The feeding troughs H, H, extend the whole length of the building adjoining the alley, and are covered by doors hung to a girth above them. The doors are fastened, when open and when shut, by a wooden bar sliding in, and entering staples of iron. They can be opened for the purpose of feeding, and shut again in an instant. The apparatus for cooking, and conveying food to each apartment, consists of a steamer, B, constructed of planks, with the exception of the bottom, which is heavy sheet iron, placed upon a brick arch, the sides of the steamer extending so far over the walls of the arch as to prevent burning. It will contain 15 bushels of roots, and will cook them in one hour. When sufficiently cooked, they are immediately transferred to a car placed upon a railway, C, C, which runs the entire length of the building in the alley, which is eight feet wide, and as close to the troughs as is convenient, and also close to the steamer, which is placed on the opposite side of the railway. D, D, are bins for roots, in each of which a window opens for the purpose of shoveling them in, represented at E, E. At F, is placed a suction pump which brings water from a spring outside the building—G, bin for ground feed—I, I, doors.

I shall make the process of cooking food, feeding, profits, &c., the subject of another communication.

Very respectfully yours,
New Lebanon, March 25, 1842.

B. A. HALL.

REPLY TO MR. BICKETT AND OTHERS, ABOUT AYRSHIRES.

MESSRS. GAYLORD & TUCKER—You are well aware that the letter about English stock that appeared over my signature in your paper of November last, was dashed off at your request, just before leaving Albany, and if I remember rightly, was not, from the brief time I had, re-perused, but was handed you with a request to correct any little errors that might be contained in it. It is not to be supposed therefore, I weighed my expressions with that accuracy that their extensive circulation would seem to have demanded. It is preposterous to infer in my observations on Ayrshires, that I could mean anything else than you were obliging enough to attribute to me in your December No., page 188, in reply to "A Novice," in which you say: "Perhaps, however, Mr. A. did not intend to assert that the cross proposed by him would give positive Ayrshires, but only a breed possessing all their essential and most valuable qualities."

Certainly this was what I intended, and as a proof of it, need only to refer gentlemen to a communication of mine on the same subject more at length, made to the president of the Kentucky State Agricultural Society, during a visit to that warm hearted, hospitable country in January last, which was written previous to my seeing the December No. of the Cultivator. I quote from this: "To those who wish for something like an Ayrshire already acclimated to our country, I recommend to purchase snug short horned bulls of a medium size, bred from milking families, and cross them on the best milkers at their hand, and from these make the most approved selections, and then continue," &c. The reasons I offered for this course, were that our country has paid large sums for the importations of short horns, for this object, viz: the improvement of our native cattle; and I had been informed by several gentlemen, both in England and Massachusetts, that had imported Ayrshires, that they had rather disappointed expectation. These are persons of the first respectability, and one of them a president of an agricultural society; and if the advocates of the "unrivaled" excellence of Ayrshires, can rebut this testimony by facts, no one will more readily acquiesce in them than myself. I further added in the communication alluded to: "That the Ayrshire is an excellent cow, both for the dairyman and butcher, in the particular districts of Scotland, where they are bred and fed as they are, I do not doubt." What further would Mr. B. or others, desire me to concede, unless, to assert with him their "unrivaled" excellence for their milking qualities? This is a stronger expression than I am prepared to admit; but if they are entitled to it, it can easily be shown, by stating their yield in milk, with all the particulars of feed, &c. in this country. In the trial made in the London dairies between the Short Horns and Ayrshires, the latter were found inferior in the quantity of milk, produced from the former, and I can give the name and date of a cow in this country, from a Short Horn bull, "something like an Ayrshire," that averaged 41 quarts of milk per day for three weeks in succession, fed on grass and clover alone. Other cows of the same cross, have produced from 26 to 28 quarts per day each, for weeks in succession, during the winter.

As to "staking my reputation as a breeder and judgment as a man, that the Ayrshires are a cross at all," inasmuch as I did not moot that question, I must decline from want of time, entering here on that subject. Some other matters in these comments, not being relevant to the subject, I shall be excused omitting to notice. I shall only add, that as I am a friend to the improvement of stock in any way, I shall learn and give currency to, any well attested experiments on this subject, at all times whenever possessed of them, with the sincerest pleasure.

Respectfully Yours, A. B. ALLEN.

Cincinnati, O. March 29, 1842.

WE have also from Mr. Allen, a reply to Dr. Martin's last article; but, believing the public feel little interest in the subject, we cannot make room, in the present crowded state of our pages, for a continuance of the controversy.—Eds.

CULTURE OF POTATOES, &c.

MESSRS. GAYLORD & TUCKER—Your correspondent "Columbia" thinks it is not right to plow in manure, nor to plow land in the fall of the year. Fall plowing has been condemned by our ancestors, but practice has convinced me that plowing in the fall does not injure the land. If a stiff soil is plowed in the spring of the year, when the ground is wet, the furrow slice will be as smooth as a mason can make mortar with his trowel, and when dried will be almost as hard as dried mortar, and it would be useless to undertake to raise potatoes on such a soil, plowed in the spring of the year. A light loam, in a wet season, may be tilled advantageously as Columbia recommends, but a clayey soil cannot. One of my fields, a sandy loam, was tilled last year as directed by Columbia, except in applying the manure, which was spread on the sod before plowing, and the product was fifty bushels to the acre short of the product of the field tilled in the way he so much disapproves of. One of my neighbors last year planted on the sod, as directed by Columbia, and his crop of potatoes would not pay the expense of digging, so he turned his hogs into the field, and they rooted up what few potatoes had grown. I have never attempted to raise potatoes by manuring the hills. I have known my neighbors undertake it, and if a drouth succeeded, the crop was lost. I take the manure, if possible, before it has lost any of its weight by

fermentation, evaporation, or any other cause, and when I commence manuring a field I commence plowing it; I do not plow the manure in deep; four inches is sufficient for the first plowing, six for the second, and eight for the third and last plowing; this done, my field is in good condition for four years' rotation of crops, viz: potatoes, oats, clover and timothy.

I have learned by experience, that a small farm pays a better interest than a large one. I formerly owned 170 acres of land. I had the misfortune a few years ago, to lose my only son, a youth of eighteen; so I sold half of my farm, and now I find the income of my farm more than when I owned the whole, and I think I can double my present income by increasing the fertility of the soil. A few years past I have tried by way of experiment, 60 bushels of mild lime to the acre, on my oats. I think they were materially benefited, and the land made more productive by it. My oats, these two years past, averaged 56 and 58 bushels to the acre. I surveyed one acre of my last crop, had them thrashed out, and I had 71 bushels. We do not in these parts of "creation," ever expect to get such large crops as some published in the Cultivator.

Yours, &c.

TYLER FOUNTAIN.

Peekskill, N. Y. April, 1842.

PROFITS OF FARMING IN THE WEST.

MESSRS. GAYLORD & TUCKER—Having opened your columns for the publication of some very valuable farms "down east," I claim for the "far west," the insertion of the following exhibit of the productions of a farm on the banks of the Fox.

In the reports of the farms alluded to above, an important item, materially affecting the balance sheet, is omitted. The profit or loss of any operation, can only be correctly ascertained by taking into the account the cost or value of the capital employed.

1841.	FARM,	Dr.
To cash, for its purchase, 640 acres at \$5,...		\$3,200
" Stock invoice,		2,500
" Labor, 2 men, \$150 per year,		300
" " 1 man 4 months,		60
" " extra, in harvest,		35
" Interest on capital,		399
		\$6,494

1841.	FARM,	Cr.
By 40 acres wheat, 20 bus. 800 bus. at 70 c.		\$560
" 40 " corn, 50 " 2000 " at 18 c.		360
" 40 " barley, 40 " 1600 " at 25 c.		400
" 40 " oats, 50 " 2000 " at 15 c.		300
" 3200 lbs. wool, at 28 c.		896
" Invoice of farm,		3,200
" Stock to new account,		2,700
		5,900

		\$8,416
		6,494
		\$1,922

Profit,

For the sake of brevity, fractions, and unimportant items on both sides of the account are here omitted, the object being to enable the young man with small means to contrast the produce of acres valued at \$5, with those which are said to be worth \$200.

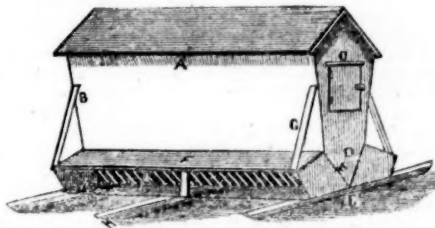
Respectfully yours,

EDWARD W. BREWSTER.

Elgin, Kane co. Ill. March 1, 1842.

SHEEP BARN.

MESSRS. EDITORS—Having seen an article in your paper, "On feeding sheep at stacks," I thought the subject worthy of particular attention, and after having reflected upon it for some time, have concluded to send you the following imperfect sketch of a method which must be far superior; which we will denominate a



Self-foddering Sheep Barn.—(Fig. 59.)

A, Length, 30 feet—B, Height from top of shelter, 10 feet—C, Width at the top of the posts, 10 feet—D, Width at top of shelter, 8 feet—E, Length of rack sticks, extending from the ground to top of shelter, 5 feet—F, Roof of shelter—G, Props, extending from posts of shelter to posts of barn—H, Runners by which to draw it—J, Rack, whole width of the bottom of the barn, converging to a point—K, End of shelter boarded up.

Here we have sufficient length for sixty sheep to eat at once, which they would not be very likely to do, as they would have access to hay at all times. My object in having the width greater at the top than at the bottom, is, first, that the building may hold more hay. This may be an objection in regard to the hay settling as fast as the sheep eat it from beneath the mow, but the question

arises, were the sides perpendicular would not the hay settle so fast as to cause a waste? I think it would; then, second, that it may not settle so fast as to cause a waste of fodder. We consider that a building of this size ought to hold from three to five tons of hay, properly mowed away. We would recommend keeping the middle fullest at all times, that it may not wedge too much. It will be perceived by an end view of the barn, that the rack comes to a point near the ground, from each side of the mow; now if the sheep eat on, or from the base of the mow to the extent of eight feet, how can the hay wedge so much in a slope of two feet in ten, as to be prevented from descending. The shelter, being five feet high and five feet wide, protects the sheep while eating, and at all other times. The width of barn and shelter at the base, being eighteen feet, and props from outside of shelter to posts in barn, render it less liable to be blown over by the violent gales which at times sweep across our country. We think three pair of cattle sufficient to move it on level ground.

Where farmers, who are in the habit of keeping large flocks of sheep on large farms, are obliged to travel one mile or more in a day, to fodder, it is found to be an unpleasant task, especially in bad weather. In the summer season we do not think of yarding our sheep and carrying their food to them. If we were to do so, who could imagine that they would look as plump and healthy as when they have their liberty, and use such quantities as nature requires for their support? The advantages then of this "Self-foddering barn," over the stack feeding system, are these—first, the hay is protected from the weather; second, it does not get wet by fog, nor do the sheep wear the wool off their necks by reaching after the hay, as they do by feeding in board racks; third, there can be no danger of the falling of the mow as in stacks, when eat out below; and fourth, the hay seed will not be as likely to enter the wool as when they reach directly over head.

GEORGE.

Amenia, Dutchess co. March 5, 1842.

CHEMICAL MANURES.

MESSRS. GAYLORD & TUCKER—Your correspondent Mr. Geo. Woodfin, in an article on chemical manures, page 61, vol. 9, criticises my article inserted page 181, vol. 8, as follows: "The well intended efforts of your correspondent Wm. Partridge, in the November No. of the Cultivator; upon a more careful examination, I am sure he will correct some errors into which he has fallen, especially when he recommends the use of caustic lime in the manufacture of sulphate of ammonia. Lime has no affinity for ammonia, and when the sulphate of ammonia has been actually formed, the moment it is brought into contact with lime, will be liberated and driven off."

I would inform Mr. Woodfin, that I am always open to conviction, whenever it can be proven that any opinion I have given is erroneous. There is no bigotry in practical science. All branches of the practical sciences are dependent on series of facts to sustain them; but when new theorists suggest changes in long established operations, whose actions have been proven by numerous actual experiments, it behooves them to point out the series of new facts which displace the older ones. I would request Mr. G. W. to review his criticism, and see if it does not destroy his own theory. I will quote the article I wrote you, and I think any person capable of judging, will see at once, the error our friend G. W. has fallen into:

"The question has been asked, does the lime used in making alkaline vegetable powder from urine, prevent the escape of the ammonia?"

"I presume caustic lime, or fresh burnt lime; in which case, instead of preventing the escape of the ammonia, it facilitates its escape. Ammonia as found in urine, is in the state of a sub-carbonate, and when mixed with caustic lime, the lime combines with its carbonic gas, and the ammonia immediately becomes volatile and will readily escape.

"If caustic lime be a necessary ingredient in making vegetative powder, its use can only be necessary to liberate pure volatile ammonia from the salts with which it is combined when in the state of urine. Plaster of Paris is a sulphate of lime, having little affinity for carbonates or sub-carbonates of ammonia; but when caustic ammonia is presented to it, a portion of the sulphuric acid of the sulphate of lime will combine with the ammonia, and leave the lime, forming a sulphate of ammonia and a sub-carbonate of lime. Hence the use of lime in the composition of vegetative powder."

It appears then that my friend Mr. G. W. agrees with me that caustic lime has no affinity for ammonia; yet if I read his criticism understandingly, he presumes I had asserted that a mutual affinity existed between them.—My knowledge of chemistry must have been very crude indeed, if I could have supposed that any two alkalies had an affinity for each other. Mr. G. W. speaks of obtaining sulphate of ammonia by mixing urine with plaster of paris, or sulphate of lime. In this our opinions differ in toto. Plaster of paris is a chemical compound, composed of sulphuric acid saturated with lime; now according to all the known laws of chemical action and chemical affinities, the sulphuric acid cannot leave the lime and combine with the ammonia of the urine, until the urine is deprived of its carbonic acid gas. In the article I sent you, I merely gave the rationale of the process by which alone a combination could be effected.

Let us re-examine what my friend Mr. G. W. says on this operation. "Lime has no affinity for ammonia, and

when the sulphate of ammonia has been actually formed, the moment it is brought into contact with lime will be liberated and driven off." Now as plaster of paris is already saturated with lime, how, according to my friend's theory, can any sulphate of ammonia be formed at all by mixing ammoniacal liquids with plaster. I am really afraid my friend will have to adopt my process, before he can form his sulphate of ammonia, unless he has discovered some new principles of chemical action.

New-York, April 9, 1842. WM. PARTRIDGE.

I think, Messrs. Editors, that you should obtain the French process for making urate, for the benefit of our farmers.

Where can it be obtained?—EDS.

COMMENTS ON THE MARCH NUMBER OF THE CULTIVATOR.

UNDER the head of "Work for the month," although you have many observations well worth the attention of your readers, I must say that you treat with unmerited lenity, those seedsmen who sell seed mixed with "Canada Thistles, Charlock, Steinkrout, Johnswort," etc. for they inflict on their confiding customers an injury, from the effects of which, it often takes years to recover their lands. Merely to remind such men that they ought "to do as they would be done by," would probably have no more influence on their conduct, than to sing psalm tunes to them. A severe fine would probably prove a much more effectual remedy. Indeed, something of the kind seems to be absolutely necessary, for I have found to my cost, that the practice of selling bad, adulterated seeds is becoming more and more common every day—at least, such is the fact, if I may judge by my own experience. It might perhaps, be checked—if not entirely corrected, provided the sufferers in every case would unite—when near neighbors, in publishing the circumstance, and the name of the seedsmen who had imposed on them.

Under the same head, you speak of sowing clover and grass seeds on winter sown grain, in March. To this I would add as the result of long experience, that unless the seeds—especially of clover, be harrowed immediately after sowing, they will almost certainly be killed, should there be a drouth in the spring; and this has occurred oftener within the last ten or fifteen years, than good, seasonable weather. Harrowing, therefore, should never be neglected, particularly as it secures the seed from being killed by drouth, and at the same time actually benefits the grain.

The method which you mention of preventing certain insects from injuring peach trees, by planting a red cedar in the same hole with the tree, has been tried I believe, by only one person, and not long enough to inspire full confidence in its efficacy. It is, at best, little more than a conjecture, which may or may not be well founded, and of no use in those very extensive portions of our country where the red cedar is not a natural growth; to say nothing of its very soon checking the growth of the tree it was designed to protect, and thus injuring it as much as the insect themselves, although in a different way.

I CONCUR entirely with you in your remarks on Mr. G. Cook's "Observations on farming," so far as they concern plaster of paris. I have been a close observer of its use by others, for forty years at least, and have used much of it myself. In no instance have I ever seen it do harm—although in many it has done no apparent good—whilst it has proved highly beneficial in a great majority of cases. Indeed, the idea of its injuring land has always appeared to me of a piece with the notion of the old Dutchman mentioned by Judge Peters in his little work on the use of plaster, who objected to it because (as they said,) "it attracted thunder."

YOUR correspondent W. K. has recommended a very simple, cheap, and effectual mode of preserving ruta бага during winter, as I can testify from my own experience. But this root which is more hardy than the rough leaf varieties of turnep, (all which may be preserved in the same way,) may be preserved by a still easier method. This is—to cut or twist off the tops as they stand, and to cover them completely, by running a deep wide furrow on each side the rows, and covering with the hoe all that have not been well covered with the plow. Having tried it myself, I can speak, as our Congressmen say,—“understandingly” on the subject.

UNDER the head "Live Fences," there is a botanical mistake which I hope you will pardon me for correcting, at the same time that I assure you I am no botanist. But seeing that you spoke of Privet and Pyracantha as the same shrub, and knowing them to be very different, at least in appearance, I was induced to consult London, and some of the botanical writers of our own country, to ascertain what they said of them. All describe the Privet as a species of Ligustrum, and the Pyracantha as a species of Crataegus. I once saw a small hedge of Pyracantha. It was beautiful to the eye, with its numerous clusters of scarlet berries, thickly interspersed among its dark, glossy, evergreen leaves; but it was quite insufficient to keep out mischievous stock. How a Privet hedge would succeed in our country, I know not, having never seen one. But this shrub spreads much from the roots wherever I have met with it, and of course, if planted for a hedge, would require frequent grubbing at the sides. London speaks of it thus: "Few shrubs exceed it as a garden hedge-plant: it will thrive in the

middle of coal-burning cities, in the shade, and under the drip of trees; though to flower well it requires an open, airy situation. Cows, sheep and goats eat it, but horses refuse it."

THE remarks of your correspondent, Mr. Gaius Butler, appear to me very judicious in regard to some of the topics which he has noticed; although I beg leave to differ from him as to some others. For instance, he seems to approve of manuring corn in the hill, in preference to broadcast. The whole of my own experience, and of my observations on the practice of others is opposed to it; and for reasons which I have stated in a former communication. Again, I should infer from what he says of fall-plowing, that he disapproves of it as a general practice, although he admits that "it is best in many instances." This does not appear to me sufficiently explicit, considering the great importance of the subject. If I might be permitted to enlarge upon it, I would say,—that in all cases where lands have either sod, or much cover of any other kind on them, winter-plowing is best, particularly for stiff soils. But that spring-plowing is best where there is little or no cover of any kind, especially for light lands.

SCOTUS seems to me to be certainly right in what he says about the seed-end of potatoes. Why, in the name of common sense, should any one incur the additional trouble and expense of "stringing them up" after cutting them off; or why should it be done in winter so as to expose them to shrivel and rot, as Scotus found they did? That a part of every potato may be saved for table use, and feeding stock, by cutting off the seed-end only, to plant, is a fact which was probably well known before the inventor of the stringing-up process was born. But I presume he will have to adduce very many proofs that such an operation in addition to the cutting off, and in winter too, is better than the mere cutting off in spring, and burying or preserving in some common way the parts saved for eating, before he will prevail on many to try his projects.

THE remarks of our friend, Mr. Solon Robinson, on the *Morus multicaulis*, and "the lamentable waste of land," that had been planted therein around Philadelphia, where he says "many patches of the trees," and "little that looked like the owners ever intended to convert them into their only proper use—the feeding of silk worms"—induce me to assure these sufferers, with whom I have some strong reasons to sympathize, that I have found out at least four other purposes to which those trees are admirably well adapted. No tree nor shrub makes better riding switches, rods such as the whipping class of pedagogues use; nothing answers better for pea-sticks and wattle fences, whilst the leaves are actually preferred by many cattle, as I myself have often seen, to clover and orchard grass. Long life, then, say I, to *Morus multicaulis*, for other purposes besides feeding silk worms; although, I dare say that there are hundreds—perhaps thousands of our countrymen—who, for at least half a century to come, will sicken at the very name. For their consolation therefore, I would respectfully suggest, that whenever hereafter, we have occasion to mention this exotic, we should always call it, *Morus multidoloris*.

ALTHOUGH I have most studiously avoided, and shall continue to avoid, taking a hand in the Woburn and Berkshire war, I will venture to express a hope that it may soon be ended by mutual consent; or that the parties thereto will call in umpires who are neither breeders nor venders of either Berkshires or Woburns, to settle the matter finally, and place it "on the best and surest foundations." So long as this war is waged by such equi-potent belligerents as have been battling it in your paper for a year or two past, the misfortune is, that we luckless fellows who are utterly ignorant of the comparative merits of these two famous breeds of hogs—although very desirous to buy the best—have been kept pretty much in the same tantalizing situation of the poor ass between the two apparently equal bundles of hay; and have been drawn by such equality of temptation towards both, that we have not been able to choose either. This, I think, you will admit to be a sad predicament; and one from which I hope you will exert your influence to relieve all the sufferers—not excepting your friend,

COMMENTATOR.

THE POTATOE OAT

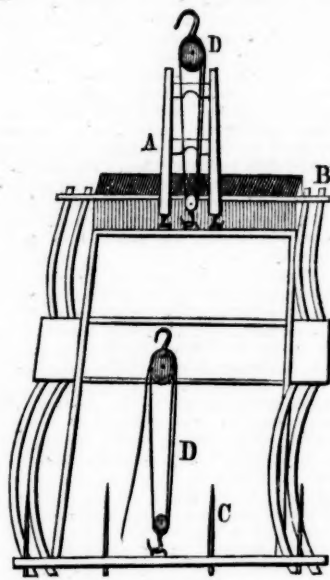
EDITORS OF CULTIVATOR—In your paper of this month, is a letter of Mr. G. B. Smith, cautioning the public against the use of the Potatoe Oat, as having had an injurious effect on many horses. My experience being directly the reverse, I feel called upon to entreat those who have used this variety of oats, and those who might be about to try them, to revise their judgment, and to ascertain whether some other cause than the oats may not have contributed to the ill condition of the horses fed on them. I do not raise many oats, but have had the potatoe oat in preference whenever I could get them. In 1839, I had about four hundred bushels, all of which I fed to my horse teams, with chaff, cut straw and roots, and very little hay; and the remark of a friend, who returned from Canada in the following spring, was, that he never saw my teams in quite so fine condition. That there is more nutriment in a bushel of the potatoe oat than in a bushel of the common kinds, the weight, 42 and 45 pounds per bushel, would show. I have no doubt that Mr. Smith has stated correctly what was communi-

cated to him. It is the fear that the influence of his well known name may deter some of my brother farmers from availing themselves of what I consider a valuable addition to our means of feeding, that induces me to state publicly my experience.

JOHN MOXON.
Charlotte, Monroe co., N. Y. April 18, 1842.

HAY RIGGING OR PATENT SHELVES.

MESSES. GAYLORD & TUCKER—In several numbers of the Cultivator, inquiries have been made respecting Hay Riggings. Your correspondent from Knox co. Tenn., in the December No., has given the plan of one used in his part of the country; but as I think they are inferior to those used here, I am induced to send our pattern.—New-York affording a ready market, hay is carted a distance of forty to fifty miles on riggings of this description, called here, "Patent Shelves." The enclosed drawing, (fig. 60,) is from one I use; some of my neighbors have three slats over the wheels, one inch thick and three inches wide. The slats are morticed through the end rails and pinned; the other parts are fastened by bolts and screws.



Hay Rigging or Patent Shelves.—(Fig. 60.)



Side view of Shelves.—(Fig. 61.)

A, the ladder, at the bottom of which are hooks, which are hooked into eyes on the front rail. The slats of the ladder are hollowed out for the pole or boom to rest in, over the load, the boom being cut with a notch. This ladder prevents the load shifting forwards, and rests against the feed or driving box B, at an angle of about 85°; this box is large enough to hold feed or to sit on to ride, and when the load arrives at market the traces are unhitched, the horses are turned round and fed. C, four hickory or white oak pins, 18 inches long, which hold the hay from shifting backwards. D, two double purchase pulleys, fixed at the top to a beam or pole over the wagon house; when the wagon returns from hay or straw carting, it is run under the wagon house, the lower pulley is hooked into a screw eye placed in front and back rail. One man can easily hoist it from the carriage out of harms way without taking it to pieces. The common sides can be placed on for usual carting, till it is wanted again for hay or grain, and is easily lowered on the bolsters. A cleet is screwed on each side rail, to prevent its shifting on the bolster.

JOHN HAROLD.
Oakland Cottage, South Hempsted, 1842.

"DUTY ON WHEAT FROM CANADA."

OUR thanks are due to our friend J. K. of Canboro, U. C., for his well written paper on this subject. On most points we have the pleasure of agreeing with him perfectly. Farmers do not need, nor should they desire much legislation on matters relating to labor, further than to defend them from the oppressive or injurious enactments of others. Reciprocity of exchange, equality in trade, is all that they can claim or reasonably desire; this granted, industry and skill must do the rest; and the present fearful condition of England proves that all beyond this, is an attempt to thwart or obstruct the irreversible laws of nature. If there is one article more than another, which all should be free to obtain at the lowest rates possible, it is bread; and the great fault in all governments, has been, that they do not make the necessary distinctions between the necessities and the luxuries of life. We would cheerfully give our correspondent's paper a place; but it would probably lead to a discussion which, if not foreign to the objects of the Cultivator, would in the crowded state of our columns, be inadmissible.

SALMAGUNDI—No. VI.

SHEEP—ITEMS OF SUMMER MANAGEMENT.

MESSRS. EDITORS—It is unfortunately the fact that too many farmers suppose sheep require but little attention during the season of pasturage, and can secure an adequate supply of flesh to carry them through the winter, if left to "shirk" for themselves. This is a very great error; and the baneful consequences of such a course are very obvious, in thousands of instances, in the months of March and April, in the numerous premature deaths that follow. It is an axiom "that stock well summered are half wintered," which every thrifty farmer will hold in recollection and practice upon; and it is especially applicable to all who have large flocks to manage, yet not much less so, to others. Sheep, with the exception of the English varieties, which are great devourers, do not require what is usually understood as a *luxuriant* pasture, but short, yet at the same time an abundance, growing on dry, elevated lands, rather than bottoms; the latter, where sheep range upon them wholly, originating, very often, foot rot, as well as other diseases. This is generally well understood, and therefore requiring no particular authorities to prove its truth.

But having an abundance to eat, is not the only point necessary to secure health and flesh; it is *changing the flock often from one field to another*. To every intelligent, observing farmer, the fact is well known that no domestic animal is possessed of olfactory organs more keen and sensitive than the sheep; and consequently, if a flock is kept too long upon a field—and it matters not how good the pasture may be, it becomes tainted, is rejected, and the sheep fails rather than thrives. Whenever the flock is seen in a restless state, nosing here and there, without eating, then, rest assured, it is high time they were removed, even if the pasture were changed to should be shorter or less abundant. I can assure all, that I practice most rigidly what is here preached. Early in the spring, after ceasing wholly to fodder, I rarely suffer a flock to remain on a field beyond two or three days, and the balance of the season, change as often as once in five or seven days, depending, of course, upon the supply of grass which each field may afford; but never deferring it longer than a week under any circumstances.

It must be obvious, in order to carry out this policy, that the fields of a sheep grazing farm should be small; and the flocks likewise. My fields vary in size from 8 to 15 acres; and I never permit over 100 sheep to herd together, at any season, at least, not after one year old. From long experience and close observation, I am so well satisfied that small fields and frequent change of pasture, is the true policy, I am willing to make a pledge, that 125 sheep can be kept in *better health and condition* by its adoption, than 100 can in disregard of it, on the same number of acres; and I doubt not very many of your readers will concur in this statement.

I have not, until of late, been of the opinion that the cultivated grasses were best relished by sheep; but last season I was resolved to test the matter, and the result induced me to think differently from what I had previously supposed. One of the fields upon which a flock was placed had never been plowed; being hill-sides bordering a brook, on which grew June grass, natural to our soil; the other adjoining field was seeded two years before wholly with timothy, being rather too low for clover. The bars communicating between these fields were left out for the sheep to change themselves; but I soon found it was "no go;" they were determined to stick to the timothy as long as there was stock or root left; and in the meantime, the natural grass in the other field grew unmolested. After this, I tested it with another flock, on another part of the farm, and a like result followed. Having established so important a fact, I mixed this season, an equal quantity of timothy and clover for seeding; heretofore using a proportion of one-third timothy—unless in occasional instances when it was wholly used, from the soil being too wet for clover, where it is soon thrown out by frost, especially if it is tenacious or clayey.

It is perhaps not generally known that no domestic animals seek for so great a variety of food, as sheep. They will occasionally eat of every plant and noxious weed that grows upon the soil where they range, and especially aromatics. This fondness for variety, the practical sheep master has often seen manifested, in the avidity with which his flock will devour the leaves of the milk weed, and even burdock, indeed of almost every thing, if cured with the hay. There is true philosophy in this, for the acrid and bitter properties of these and other plants of like nature, aid wonderfully the digestion of other food. "Instinct is a great matter," said old Jack Falstaff. True as the needle to the poles, it points unerringly the way for the individual welfare of the whole brute creation. How important, then, is it, with a view to perfect management, that the shepherd should ascertain the likes and dislikes of the interesting animal for which he has to provide!

The philosophy of *salting sheep* frequently, during the season of pasturage, is no longer questioned; yet it is shamefully neglected. The change from dry food to grass should not be sudden; but notwithstanding this care, more or less will scour, if salted too much, immediately after dry fodder is wholly disused. For several weeks thereafter, less than two quarts to the hundred is better than a larger quantity; after which, about four quarts is the amount I give, and that, on the average of the season, once in about five days. The above caution of salting in small quantities should be rigidly observed with yearlings, until after shearing. Salt is a material aid to the digestive organs, and it is a pretty well ascertained

fact, also, one of the preventions of disease with nearly all domestic animals; and if given in judicious quantities, will induce greater thrift and condition. Hear what Youatt, the distinguished sheep historian, says: "Passing by the beautiful country of Montpellier, (France,) and the mouths of the Rhone, the traveler can study the fine sheep and the sheep husbandry of Arles. The district of the Cran, in length nearly eighteen miles, and about half as much in breadth, extends from the mountains towards the sea coast. It is one uniform gentle declivity; in no part of it is there the slightest portion of stagnant water, and not a tree or bush is to be seen. The soil is consequently dry, and apparently barren enough; but the herbage which it affords, is that which peculiarly suits the sheep, and the cocks-foot grass, and the clover, (*Trifolium pratense*), and the common thyme, and the wild thyme, and the lavender, (*Lavandula spica*), grow amid the flints, affording a pasture nutritive, without one dangerous aqueous property, and of a luxuriance that would scarcely be deemed possible. No less than 130,000 sheep grazed on this declivity. A writer in the Memoirs of the Royal Academy of Sciences at Paris, attributes the thriving of the sheep on such a spot, to the *free use of salt*, thereby enabling the digestive organs to extract every particle of nutriment which the food contains." He says, "on this spot, so seemingly sterile, by the free use of salt, more numerous flocks are bred and reared than upon any other common of equal extent throughout the whole kingdom; and what is not less remarkable, the sheep are *healthier, hardier, and endure the severity of the winter with less loss*, though they have fewer sheep-cots for covering, than those fed and bred on more copious pastures, and that have, besides, the advantage of more convenient shelter." Other authority on this subject could be cited, but the above is deemed quite conclusive.

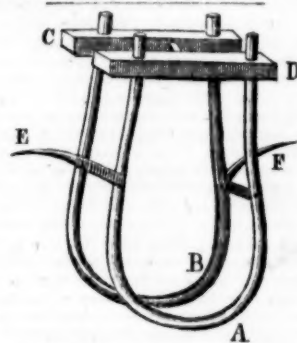
I had almost forgotten to notice a practice with thousands of farmers—and a lazy one it is too—when removing a flock of sheep, of letting down only the *ends of the bars*, instead of taking two or three of the lowest *entirely out*. All know who have witnessed it, the rush that is made at such times, and consequently, feeble sheep are often thrown down, run over, and if heavy with lamb, injury must follow. But this is not all; the great danger is of getting their feet fast between the bars, and thereby legs are liable to be broken or severely injured. If you are in a hurry, you will save time by adopting what is recommended.

MAMMOTH HOG!—I am quite as much opposed as any of your readers, to accounts of big calves, hogs, and what not, unaccompanied with statements, *how they were made such*. His distinguished swinehip whose dimensions, weight, &c. I am about to render, was slaughtered some five weeks since, distant about two miles from my residence. The scene was witnessed by an hundred or more of my neighbors, and I would have been present myself, had I not forgotten the day fixed for the termination of his lordship's existence. Like some of the counterfeit aristocracy of our country, his pedigree is remarkably short, viz: sire, full-blood Yorkshire; dam, full-blood Land-pike. His proportions were as follows: live weight, 1,108 lbs.; dressed do. 1,040 lbs.; length, 7 feet 8 inches; height, 3 feet 9 inches; girth, 7 feet 5 inches; age, 2 years, 11 months and 4 days. Nothing was done behind the curtain; but weight and measurement were witnessed by all present, and the above statement was rendered by the "marshal of the day." The little difference between the live and dressed weight, will, I think, surprise all. He was kept as a boar until two years of age, and put up for fattening in September last. The average consumption of food was 14 lbs. of corn meal, with occasionally a few cooked potatoes, per day. The owner and fatterer's name is Mr. Wilson Merritt, of the adjoining town of Genoa, and county of Cayuga. Can Mr. Bement, or Doct. Martin, beat the above? *Nous verrons*.

AGRICULTURAL CENSUS.—I had prepared a table embracing the statistics of wheat, sheep, and wool, copied from the late agricultural census report; but I perceive from the Cultivator, (just received,) that I have been anticipated, by yourselves, in publishing the whole. I am right glad you have done so, for it is a document of the highest value to the statesman as well as agriculturist. Your comments appended, are of the genuine "American stamp," and will, we think, be responded to most cordially, by every true lover of his country. For my own part, I love to dwell on agricultural statistics. They constitute a sure index of a nation's prosperity, or otherwise, its glory or shame. Who can calculate, now, the vast aggregate product of labor of our beloved country, fifty or an hundred years hence? None. All, though, can respond, mighty and wonderful will be the amount! A word more. It will be seen, on reference to the table, with surprise to many, that sisters Ohio and Pennsylvania—(and "Old Virginia" ain't slow)—are ahead of the Empire state in the amount of wheat; but if either the crops of '40 or '41, had been taken, we would, beyond question, have taken the prize, as all recollect the universal failure of our crop in '39, as reported in the statistical table. There are unaccountable errors in the wool statistics, averaging, it will be observed, less than one pound and three-quarters to each sheep; whereas, the true average, all will concede, cannot possibly be less than 2½ lbs., and is not unfrequently estimated as high as 3 lbs. The errors must have originated, in many cases, from official misduty, and again, rendering to the officers, often perhaps, only the amount *sold*, neglecting to include the quantity reserved for family use.

WOOL, AND BETTER TIMES.—The following appeared in my N. York paper, received to-day. "Altogether,

there is much cheerfulness and hope among moneyed men, and better times are looked for as *immediately at hand*." "Boys, do you hear that?" Better times, eh? Well, we want them amazingly in these "diggings;" therefore let 'em slide, the sooner the better. A word about wool. The prices the article has borne for the last six months, or more, will be no criterion for the present clip. The weight which has depressed it is about to be lifted at Washington; therefore let every wool grower *think twice before he sells once*. All may hope to get cost, at least, which few of the fine wool growers have received for several years past. L. A. MORRELL.



COW COLLAR—(Fig. 62.)

MESSRS. EDITORS—It often happens that valuable cows acquire the habit of sucking themselves. They thus rob their owners of their milk, thereby lessening materially their value. The question then presents itself, "What can be done to prevent them?" The farmers in and about this neighborhood, construct a collar, (I use the term for want of a better one,) that has proved most effectual. I send an illustration (fig. 62,) with an explanation, because I think it will be better understood than I could otherwise make it.

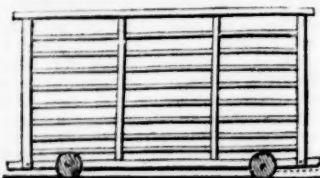
A and B, in the cut, represent two ox-bows, of a size suitable for the animal for which it is intended. The bow marked B, should be a little the largest, corresponding with the size of the neck at the shoulders. C and D, represent the yoke or neck piece. It is formed of two pieces of wood of a size say 1½ by 2½ inches, and framed together by means of a cross piece, which gives it the appearance of the letter H. In this yoke are bored four holes of the size of the bows, and at such distance apart as would best receive them. Across the bows, midway from the bottom to the neck piece, are riveted two pieces of iron marked E and F. These pieces have a spiral termination. They should be bent out somewhat, lest they unnecessarily pierce the sides of the animal.

QUERY—How can a queen bee be distinguished, and by what process can she be taken from her colony? Berlin, Conn., March 18, 1842. R. NORTH, Jun.

ORIGIN OF THE MORGAN HORSE

MESSRS. GAYLORD & TUCKER—Mr. Edward Terry, of Rochester, Vt., recently sent me two numbers of your Cultivator, containing some account of the origin of the Morgan breed of horses, and also an affidavit of John Stearns, of St. Johnsbury, Vt., relative to the same subject. I have read the affidavit of said Stearns attentively, and know that he is entirely mistaken in all his statements relative to the time said horse was brought into Vermont, the place from which he was brought, and the manner in which he says his uncle John Goss, obtained said horse of my father. I know very well that Mr. John Goss never obtained said horse of my father in any way whatever. My father owned said horse to the day of his death, and in the settlement of my father's estate, said horse passed into the hands of William Rice, then living in Woodstock, Vt., since deceased.

I will now relate the facts relative to said Morgan horse, as I recollect them. My father, Justin Morgan, brought said horse, or rather said colt, into Randolph, Vt., in the summer or autumn of 1795. Said colt was only two years old when my father brought him to Randolph, and had never been handled in any way, not even to be led by a halter. My father went to Springfield, Mass., the place of his nativity, and the place from which he removed to Randolph, in the spring or summer of 1795, after money that was due to him at that place, as he said; and instead of getting money as he expected, he got two colts, one a three years old gelding colt, which he led, the other, a two years old stud colt, which followed all the way from Springfield to Randolph; having been, as my father said, always kept with, and much attached to the colt he led. Said two years old colt was the same that has since been known all over New England, by the name of the Morgan horse. My father broke said colt himself; and as I have before remarked, owned and kept him to the time of his decease, which took place in March, 1798, and said horse was five years old the spring my father died; and as before stated, soon after my father's decease, he passed from my father's estate into the possession of Wm. Rice, of Woodstock, Vt. I cannot state positively that my father purchased said colt in Springfield, Mass., but I am very confident that he purchased him in that town or in the immediate vicinity on Connecticut river, and I know that my father always, while he lived, called him a Dutch horse. Stockbridge, Vt., March 1, 1842. JUSTIN MORGAN.



A FARM GATE—(Fig. 63.)

EDITORS OF THE CULTIVATOR—I herewith send you a rough sketch of a gate I have had in operation for some time, and find it answers an excellent purpose. It can be built by any farmer and costs but a mere trifle, as the materials can be procured on any farm, and are not valuable for any other purpose—recommendations which will render it the more acceptable to a great portion of my brother farmers, as it requires no outlay of money, and is yet exactly the thing they want. In traveling through the country, I have discovered generally the most wretched defects in gates and bars, of anything that relates to fencing; not unfrequently finding a farm tolerably well fenced in all other respects, and the bars miserably defective, to say nothing about the time spent in taking them out and putting them up, and gates, if any, in a miserable sagging, tattered condition, rendering their crops insecure for the want of a little labor and attention. I will give you the plan I built mine upon, and the kind of materials used, which can be varied according to circumstances, with the chance of improvement which all new things are apt to undergo. For the top and bottom piece of the frame, I split a chestnut sapling so that each piece, when dressed out, would work about two inches by four; the end pieces about 1½ by 3, and the middle slats still smaller, all of the same kind of materials. I then put one board at the bottom, morticed through the end pieces with two small tenons at each end; the remainder I fill up with small soft maple poles, let through the end pieces by a 1½ inch auger, and fastened with half inch pins, just cutting the side of the tenons, which prevents weakening them too much, and secures them equally well, and nail the poles and board to the middle slats. I then take a chestnut pole about six inches through at the butt, and 22 feet long, and hew the butt end so that the flat part that goes across the gateway will be from 4 to 6 inches wide, to receive the forward roller, which is plain; the small end that extends back of the gateway, need only be straightened to receive the rail upon which the back roller traverses; the rail may be sawed out of three-fourths or an inch oak board and 1½ inches wide, and rounded on the top to receive the back roller, which is concave, and may be made of wood or cast iron; then put the rollers which should be six inches in diameter, with a mortise into the bottom piece at suitable distances; then to keep the gate in its place and properly secure it, set into the ground two pair of large stakes, straight on the inside at each end of the gateway, just far enough apart to let the bottom and top pieces pass easily through, and put a pin at the top to secure them properly. Objections may be raised as to the durability of the soft maple poles, but those who have not used them are not aware what length of time they will last when the bark is taken off. It may also be said that both rollers should be concave and a bar of iron run across the gateway. With those who are willing to incur the expense, there can be no objection, but for all ordinary purposes the plan I have proposed will answer; there is no difficulty in opening and shutting them by a child eight or ten years old with ease, and I think less liability to get out of repair than swinging gates, not so liable to be operated upon by the wind, being built of small poles, and not so troublesome in winter on account of snow.

Claverack, Dec. 14, 1841. JOHN MARTIN.

LETTERS FROM MR. PETERS—No. IV.

MESSRS. GAYLORD & TUCKER—Your able correspondent Commentator, in the May number, seems to doubt an assertion of mine, that we are not 30 years behind England in our agriculture. I may be mistaken; but notwithstanding his doubts, I think I shall not give up the point yet.

We may not have the capital, but we have what is almost as good, enterprise and industry, and these in time will accumulate the capital.

England, 30 years ago, in every thing save her improved stock, was not one step more advanced among the great mass of farmers than this country is now. I doubt very much whether there was any thing like the general knowledge among the English farmers, that there is now among the American farmers. I go still farther, and assert that even now, there is as much knowledge among the great mass of our farmers as there is among English farmers. We fail in practice, and that is mainly owing to the want of capital. I would ask Commentator, as he is a much older man than I am, if he is not aware that nearly all the improvements in agricultural implements and machinery, in the last 20 years, have been made in this country? And, excepting the improvements in stock, I would further ask him what great improvement has been made by England within the same time; and has she not borrowed as much from us as we have from her? True, she has celebrated agricultural writers, but excepting perhaps Davy, none who have done as much as either Chapin of France, or Liebig of Germany, for the real improvement of agriculture.

We have not as much good stock as they have, but we have as good, because we are constantly importing from

them, and selecting the best. For instance, Mr. Prentice has as good Short Horn Durhams, and Messrs. Corning & Sotham as good Herefords, as can be found in England, and there are any number of breeders of as good swine as can be found there or any where.

If we only had a judicious and well digested system, we should be but little if any behind our mother country, taking our agriculture as a whole. We have not yet the taste that is everywhere displayed around the cottage and home of the farmer. One reason has been that we have had no wealthy nabobs scattered about the country to lavish money upon their estates, and thus make us sensible by contrast of the difference between refined taste and no taste at all. We are however improving from each others example. The farmer begins to find time to set out trees, to fence in his front yard, and to help his women to cultivate a few rose bushes and flowers, and feels all the better when he contrasts the pleasant appearance of his home thus improved, with the naked prospect around the house of his more careless and indolent neighbor.

In the trim appearance of the country, we are indeed, a great deal more than 30 years behind England; but in all the essentials of good farming, we are but a few years behind her; and I shall see, if I live to my three score years and ten, our agriculture fully equal if not superior to hers. When more at leisure, I may recur to this subject again, but in the meantime hope Commentator will look more into the subject, and see if I am not nearer right than he at first supposed.

T. C. PETERS.

SUGGESTIONS TO FARMERS—No. II.

MESSRS. EDITORS—An agriculturist should never overlook these two laws of Nature—1st. That which keeps the earth covered with vegetable production, and which is necessary for the continuance of vegetable growth. 2d. That for the continuance of its kind. All organic productions, being possessed of a set of generant organs for re-producing their kind, cannot be disturbed, when these functions are developed for procreation, without injurious results.

We cannot look upon our fields and forests, without being forcibly reminded of this wise and unalterable plan, and the manner in which nature provides to keep up their continuous succession. Upon this depends the result of the product of our soil, and whenever we step aside from the examples set before us by nature, over-reaching her to grasp at human ambition, our science falls, and we either have to retrace our steps, or sink individually to our own desires. Wherever the earth is without vegetable growth, it is barren, and the wisdom displayed in keeping up its fertility, is clearly set forth in the decomposition of her own productions, and these laws are the same in all climates and upon all soils. Then to produce the best and most happy results, what should be the practice of the farmer? The first thing to be attended to on all exhausted soils, is to restore it to fertility. 2d. To prevent as much as possible, the escape of gaseous matter from the soil. 3d. To plant our crops in such manner as to afford the greatest yield.

The improvement of the soil has been and is a subject of deep consideration and interest to almost every farmer, and has elicited from men of great genius and science, years of indefatigable labor, each in his course arriving at something new for the alleviation of our toil, or to increase more abundantly the munificent productions of our farms. In following them into the intricate depths of science, let us not forget what nature is achieving in her laboratory; if she can enrich our fence corners and our woodlands, by keeping them covered, while we impoverish the field, let us not overlook the lesson.

To enrich our lands, they should never be left without a covering to protect them from the sun of summer, and as far as our abilities extend, from the severe frosts of winter. To insure a good crop of wheat, and at the same time, improve the soil, two green crops should be turned under during summer, with the use of salt. In the slow decomposition of vegetable matter, I have found an animal production, that has been supposed to be harmless; but I have had reason to believe otherwise, and find that common salt is a good corrective. Under the supposition that the land does not want lime, two green crops plowed under during summer, will, in a great degree, protect the earth from the influence of the direct rays of the sun, and the crop receive the exhalations from the soil to be returned to it, and with the use of salt, will produce a better crop of wheat than manure from twice their quantity, after undergoing a decomposition in the stomach of cattle, and be a more permanent improvement of the land.

To retain the gaseous matter in the soil, nature keeps it closely covered, and by this covering, each plant receives a continuous and equi-necessary quantity; while if the putrifying vegetable substance was exposed to the direct influence of the sun's rays, it would be thrown off into the atmosphere in vapor, as I presume all excess of gaseous effluvia is for the common benefit of nature's grand design, and with the use of lime and plaster, those gases which appear necessary can be retained.

To plant our crops so as to afford the greatest yield with the least labor, is the great desire of every farmer; and as we are not to be informed by that person, whoever he may be; and you say it is not Mr. Bridgeman that is invested with this inestimable secret, then allow me to ask his name,* his residence and his occupation. Mr.

* The name of the person who applied to Congress for a reward for an important discovery in terra-culture, is Russell Comstock, a resident, and we believe a farmer, of Washington, Dutchess county, N. Y.

Bridgeman might at least have given his name, and not left his readers in ambiguity of construction.

The greatest error appears to be committed in our corn crops and peach orchards, and this is for want of the proper application of the two laws of nature, that head this article; and I believe that thousands of days labor are expended in violation of these two laws, that are worse than useless. I know from the result of my own farm, that from the ground—under common culture by a good and attentive farmer—that produced about 400 bushels of corn, planted four feet square, I have taken nearly nine hundred bushels, with less labor (except the husking,) when planted and worked consistently with the above laws: and this is not the only instance, but in every crop that I have ever planted of this kind. Plant this, and all other hoed crops, close enough to prevent spontaneous growths at the time when the vessels for forming seed are maturing, so as not to be under the necessity of working them at this time, and I will venture to predict that we shall not need the aid of that person, whose name I have not learned, nor the million of dollars to confirm the belief, that a protecting covering for the surface of the earth, by close planting or otherwise, following nature in the course she points out, is the cheapest, best and only safe system for the farmer to adopt.

LYTLETON PHYSICK.

Ararat Farm, Cecil co. Md., May 12, 1842.

PHILO COMMENTATOR.

GENTLEMEN—I am an admirer of the strictures of Commentator; he is evidently a writer of a sound discriminating mind and a clear head. Well written criticisms designed in all kindness, and specific answers to inquiries from your many readers seeking information, are among the most valuable articles with which you treat your readers.

I should be highly gratified if he would pursue his labors *con amore*. In the meantime, will you permit one who has been a "looker on here in Vienna," some three score years in this breathing world, one who has no other pretensions to worldly wisdom than what he has picked up in the bye-ways and highways and corners of the fences of the Republic of Letters, to follow a humble gleaner of the *tares* from the golden grain that your *Cultivator* so successfully disseminates.

COVERED WELLS.—In your January number your answer is not full enough on the subject of *covered wells*. In all wells the least disposed to produce sulphuretted waters, as nearly all do that are in the region of the transition or secondary rock, covering is fatal to them, as it presupposes the use of the pump. Sulphuretted hydrogen gas is heavier than common air, and as it is given off by the water, forms an atmosphere above it, which has a tendency to keep the whole mass surcharged and consequently impure and noxious. In all such wells there is no security but in the use of the bucket; in the drawing of the water and from the drippings of the bucket, a constant circulation and change of air is kept up, the water procured is from the *surface* which has given up its gasses, as it has a tendency to do as soon as it is free from the pressure of the superincumbent earth; while the pump always takes the water from the *bottom* just as it is produced, charged with all its noxious gaseous contents.

These are the *ichys* that all well waters are purest and best, that are drawn with the bucket.

The complaint as to worms, insects and reptiles, is owing to the imperfection of the walls at the surface. Let about three feet of the upper portion of the walls be laid in mortar or clay, with a well fitting platform and a tight curb, and the defect is cured.

One word on the subject of *bad water*. Great fears have been indulged in—whole countries have been anatomized as uninhabitable and fatal to life, from the whims of early settlers. Now sir, my belief is, on that point, that you may *eat the devil and drink the vil, head, horns and all*, but you must not *breathe* him. There is no water in nature, so bad that you may not use it for all the common uses of life; there is none so bad not even the "green mantle of the standing pool," but I have used while hunting and traveling with a pack horse the trackless prairies of the west; the water used on ship board by sailors, frequently is so putrid that they have to hold the breath and strain the living mass with the teeth while drinking it, and yet it does not affect their health.

Hard well waters, whether from carbonic or sulphuric acid's holding the earths in solution, are pure in comparison with the Saratoga chalybeates, or sulphur springs of this country or the south, and yet they are the very hygean fountains that poets dream of. The gastric juice is the purifying menstruum that corrects the contents of the stomach, and you may drink of the standing pool with safety, while the breathing of its noxious malaric exhalations is fatal to existence.

GATES.—A man once asserted that honesty was the best policy; another asked "how he knew it?" He replied, "by the Lord Harry I have tried it." So with Mr. Garrett's gate, of which an engraving is given in this number, for I have tried them for several years. There is no *sagg* to them—boys may enjoy the perfection of human happiness—to swing on a gate and eat candy, and not disturb them. When well made, they will sink half an inch in dry weather and regain it again in wet weather. I should prefer the brace to be *loosened* in the foot, and dropped in at the top at the point where the middle post joins the top rail, and with a crotch hinge at the bottom, so that it will open either way, and shut of its own accord.

SLUG.—Mr. Hodges' communication on the slug that

infests the cherry and pear, is quite correct; he is unable to determine whether the *nidus* is laid on the tree or on the leaf; on that point I am clear; it is laid on the upper side of the leaf, about ten days previous to their appearance in the larvæ form, in the shape of a little blister or bladder that covers the egg. I have never been able with the most untiring and closest scrutiny, to discover the parent insect. I have several times, in a close vessel filled with earth and covered with glass, attempted to perfect the creature, but from some fatality never succeeded; a case I never failed in when applied to the curculio, cut worm and various other insects.

They first appeared about Albany in 1820; at Canandaigua and Rochester about 1830, and at Buffalo in 1840; they are progressive and quite a pest; the only preventive is, after they have hatched out, to use tobacco juice or dry ashes and slaked lime thrown freely into the tree.

ROHANS.—Very many persons are denouncing as useless the Rohan potato, and in many cases not without some cause, mostly as I conceive from the want of information as to the proper management. The great failing is, that they do not plant them early enough to give them time to ripen and perfect themselves. They should be planted as early in May as possible, at any rate before or by the time of planting corn. Unless they are planted early, and have time to perfect their tubers, they do not yield better than many of our standard kinds, and are an unripe, watery insipid article, unfit for the food of man or beast. There is but two or three principles of nutriment in the whole vegetable economy. Starch or flour, saccharine or sugar, and mucilage or gum constitute nearly the sum total.

The nutritious principles of bagas, beets, carrots, apples, &c. exist in the saccharine, and in all the grains and potatoes, it resides in the starch, principally, and that potato that contains the greatest quantity of starch with the same ability of production, is the most desirable article to cultivate; and that is a point that requires examination, the settling of which beyond cavil, by competent authority, would be worthy the patronage of the state society, and I admire that the subject has not attracted the attention of the committee for offering awards, eliciting valuable truths by experiments.

The Rohan requires a longer period to perfect itself than any potato we grow in this state that I am acquainted with, and a potato that will not ripen planted from the 10th to the 15th of June, is objectionable.

From the 20th to 30th of May, corn planting is usually finished, and then commences a period of 10 or 15 days usually devoted to the potato crop, and therefore a species that will not ripen after that time for a stock crop, is not as desirable as an earlier and equally prolific variety.

FALL PLOWING.—Your correspondent "Columbia," has the best of the argument in my view of the subject of fall plowing, for which practice there is no other possible benefit to be derived, than a saving of time and the killing of the *larvæ* and *chrysalis* of destructive insects, which in most cases is of doubtful efficacy. If plowed early in the fall, the foul grasses during the wet weather, will shoot up through the furrow, like young wheat coming up; if plowed late it does not rot and decompose, is beat down close and solid by the winter, and will require cross plowing while the sods are fresh and alive; such a field for any spring crop will be hard to subdue. The spring plowing if well done, thoroughly harrowed with the manure on the surface, has decidedly the advantage, especially for potatoes, that is, if you want to realize the virtues of the manure for the present crop; if not, why plow it under 6 or 8 inches deep and lose nine-tenths of its value?

L. B. L.

SUN DIALS.

MESSRS. EDITORS.—In the Cultivator for November last, is an article on Sun Dials, from the pen of Wm. P. Kinzer of Pennsylvania, that may seem to require some notice from me. As a manufacturer of dials, I feel thankful to Mr. Kinzer for bringing the subject again before the public, and I am pleased with his enlarged views on the subject. I see no reason however, from Mr. Kinzer's communication, to change my views, heretofore expressed in the Cultivator.

As to the kind of dials, I have adopted the horizontal, on account of its being the simplest for use when made, and the easiest to manufacture from the materials I employ. I have, on my premises, made by myself, all the kinds of which Mr. K. speaks.

With regard to the best and most convenient mode of setting the dial, I am aware that there are different opinions, and that some writers on the subject recommend the mode adopted by Mr. K., although I should think more are favorable to the one I have recommended; yet, as experience is a better teacher in such matters than theory, let Mr. K. try the two modes, and (so easy has it become of late to ascertain the time accurately,) I feel confident he will be satisfied that the mode I have recommended is preferable. Indeed, if there were no more convenient way of ascertaining the apparent time, than that recommended by Mr. K., (of drawing a meridian line by equal altitudes of the sun, and thus obtaining, as he says, a 12 o'clock dial,) it would still, according to my experience, be the easiest and best mode to draw the meridian line on some other place than the pedestal, and when the shadow of the wire arrived at the meridian or 12 o'clock mark, to set the dial to 12 o'clock precisely. But in almost all situations, the time may be obtained (from a place not far distant,) as accurately as by draw-

ing a meridian line, and a watch set to the true apparent time the forepart of the day, and at or near 12 the dial set true to the time piece.

My mode is, (and this is the best where there is a suitable instrument,) to take the sun's altitude the forepart of the day, by a theodolite, graduated to minutes by means of a vernier, and then by spherical trigonometry calculate the true apparent time, and set a clock or watch, and at or near 12, to set the dial. The reason for setting the dial near 12 o'clock, is, that should there be any inaccuracy in the dial, it will be equally balanced in different parts of the day.

S. MOORE.
Kensington, Ct. March 5, 1842.

SOUND WHEAT GROWN IN A SMUT BED.

WE make the following extract from a letter received from H. Ransford, Goderich, U. C. The fact stated is a curious one:

"Last autumn I was in the habit of bathing behind a grist mill just below my house, which I had to pass to go to the river. One day observing several stalks of ripe wheat growing round the heap of dirt and smut that had accumulated below the opening from the smut machine, on the roof that covered the wheel, full twenty feet from the ground, I said to the miller, who was standing outside, 'I fear your crop will be but a small one.' He replied, 'not worse perhaps than some of my neighbors. What will you say if I go and get you a handful from the wheel, and you are not able to find a smutty grain among it?' 'I suppose I must believe it if I see it, but I should be afraid to tell it to another person,' I replied, and walked on to the river. On my return, he met me with a handful of the identical wheat gathered from the roof, roots, chaff, smut balls, and dirt, and strange to say, although the berry was not plump, yet it was clean and bright as any wheat I ever saw, nor could we discover the slightest trace of smut in some twenty ears that we carefully rubbed out for the purpose of finding some. Here, thought I, is the doctrine of homeopathy with a vengeance; treat a disease with what will produce the disease in a healthy subject, and health will be restored; in other words, take smutty wheat, sow it in a smut bed, and it will produce clean grain; I will send this to the Cultivator for the learned to explain, and believers in transmutation to fight over."

Mr. R. enters his protest against the Rohan, pronouncing them an "overgrown, yellow, watery kind, fit only for pigs, and not containing as much starch or nutriment as some other sorts that do not weigh one-third as much."

PROFITS ON FARMS.

WE have received from a correspondent in Chester co. Pa., a communication in reference to this subject, elicited by our notice of the farms that received the premiums from the Hartford Co. Ag. Society, in the January No. Our correspondent dissents from the manner in which the estimate of profit in those reports is made up, contending that the interest on the capital invested, (that of the land, and that of the floating capital required,) the wages and board of all the persons employed, expenses to mechanics, &c., should all be included and subtracted from the aggregate of products, before determining what the nett profit is. The remarks in general appear to us very just, and the subject deserving the consideration of Ag. Committees in making up their reports. The closing part of the communication we give entire:

"I will proceed to show the manner we in Chester co. Pa., keep debt and credit, on a farm of 115 acres of land worth 100 dollars per acre. Capital in land \$11,500. Interest \$690. A property of 115 acres will require a capital of from \$2,000 to \$2,500 in personal property, such as stock, farming utensils, and household and kitchen furniture.

Interest on capital vested in farm,.....	\$690
" on floating capital,.....	120
Wear and tear of personal property,.....	50
For lime annually, to keep land up,.....	100
Plaster annually,.....	20
The owner of the farm, wages \$11 per month,.....	132
Wife and girl's wages, \$2 per week,.....	104
2 men hired at \$10 per month, each,.....	240
Mechanic's bills, annually,.....	60
Store bill, consumed in boarding,.....	30

Expense of such a farm,..... \$1,546

On this farm we divide our business, feeding cattle, raising corn, oats, and barley, or wheat. We plow from 10 to 12 acres annually. 600 bushels of lime are put on previous to planting corn; when it is put into wheat with dung manure, and seeded to grass for mowing or grazing. The remaining part is mowed or grazed. We do not count the amount raised; for we board all the people employed on the farm, and that should have been another item in the expenses, worth \$188. The hay is all fed to stock. This stock is changed annually, therefore we take the profits of our cattle and all the surplus produce of the farm to pay expenses, and what money is left, if any, we call profit. It is the profit on our cattle, and surplus produce sold, that makes up our profit or loss, and not the amount raised.

I have said more on this subject than many may think requisite, but it is a subject that concerns us nationally, as well as states and individuals; and we ought not to deceive ourselves or the public these trying times. Every thing should go by its right name, for every rise or fall seems now-a-days to depend on the soil, and it behooves us to make correct calculations. I have seen es-

timates made out by writers on the great resources of our country, taking the whole amount of production, and holding it forth to the people, as being ample to meet our great indebtedness, avoiding to show that the great bulk of the production is absorbed in supporting ourselves, and that in some years there has been a large deficit. Chester Co., Pa. T. T. W."

ADVANTAGES OF AGRICULTURAL PAPERS.

WE should be pleased to insert the communication of G. H. Esq. of Middleborough, Mass., as a specimen of many we are constantly receiving, were it not for the apprehension that by doing it we might be deemed lacking in modesty. If there is any thing which can cheer the conductors of an agricultural paper, it is such assurances from their friends and the public, that their exertions are appreciated, and that real substantial benefits are flowing from their labors. The following extract will show one of the many instances named by "G. H." in which he has derived important aid from the Cultivator:

"There is running through my farm a brook of pure spring water; and as our well water is hard for washing, we were obliged to draw it from the brook in barrels, a mode inconvenient and expensive. I was looking about for some way to force this water a distance of 300 feet and a height of 30 feet, but could find no one who could inform me how it could be done, until I saw in the Cultivator Mr. Bement's and Mr. Phelps' experiments, which were exactly what I wanted. I went to work and made the proper fixtures, got the required machinery of Mr. Farnam, and I now have plenty of water for all purposes; for the house, barn yards, hog pen, and surplus water enough flowing over my meadow to increase the crop more than a ton annually, which will pay all expenses. There is also extra power enough, to work a churn, carry a grindstone, &c. Now had it not been for your Cultivator, I might have continued to draw water from the brook as long as I had lived."

We cannot doubt that our correspondent's new arrangements with regard to his barns, cellars, and manure yards, will be as successful as his experiment in bringing water to his house; and there are multitudes of farmers who if they would follow the example of "G. H." in reading, and profiting by what they read, would not only benefit themselves, but do honor to the farming community, and to the country.

PLASTER—BEES.

G. Cook, Esq. of Tivoli, N. Y., has forwarded us two communications, one on plaster, the other on bees. The first is devoted to the consideration of some remarks made by us on a paper of his on the same subject, in the March Cultivator; but as he has advanced no new position on the question; as we are agreed as to the main points, which are the folly of relying on plaster alone to maintain the fertility of the soil, and neglecting the preparation and use of other manures; and as he proposes to give us hereafter, his views of the nature and action of plaster, we shall omit this part, and give the one on bees, which appears to us to contain some valuable suggestions.

"In all the systems proposed for the management of the bee, it appears to me they are all deficient in one great point, the best preservation of this industrious little insect. Although, with very few exceptions, the systems proposed, contemplate their preservation, yet experience seems to establish the fact, that they will not do well in comb that is allowed to become old; therefore it appears to me, that any contrivance for a hive that will give them frequently a change of comb, must be for their interest; as breeding in, and running over it so much for several years, seems to render it unfit for the deposit of honey, or even the egg of the bee. Now the course I would recommend, would be to make two boxes, or half hives, say about 15 inches square, and about 13 inches high, (but in that respect to be governed by the average size of the swarms,) each covered at the top, with the exception of a hole 3 inches square as a passage for the bees out, and when the first or uppermost box is filled, to allow them to pass into the lower one to fill that also. In most cases, probably in the first year they will have filled the first box, (unless the swarm is very weak,) while the next year will suffice to fill the second, when the first or upper box is to be taken for use. It is not claimed that by this method the comb that contains the honey, will be as white as that taken in boxes in the other methods, yet it will not yield to the other in richness and flavor.* Nor is it claimed that this is a non-swarm; indeed I have tried almost every thing to prevent their swarming, but have found them all inefficient; it seems to be the way that nature designed them to multiply, and at the same time be provided with sufficient food. One other fact I have found out to my cost, and that is, that under all circumstances they must be ventilated and kept dry. And now while on the subject of bees, permit me to give a valuable receipt for their sting; it is to bruise the leaves of the white ash, put water upon them, and drink the decoction.

G. COOK.
Tivoli, March, 1842.

* Our correspondent might have added, that honey of the second year is far more healthy than when new; rarely producing those colics and derangements of the stomach, which frequently result from eating new honey. The famous honey of Colchis in Asia Minor, long celebrated for producing delirium and madness, a quality derived from the bees feeding on the blossoms of a species of laurel, loses this power with age; and every apianist knows that new honey partakes sensibly of the qualities of the blossoms from which it is derived.—Eds.

Agricultural Society of the U. States.

MR. GARNETT'S ADDRESS.

At the first annual meeting of the Agricultural Society of the U. States, held at Washington on the 4th ult., Mr. Garnett, on being re-elected President, delivered the following address:

Brother members of the Ag. Society of the U. States:

I beg you to accept my very sincere thanks for the honor just conferred on me, and to assure you that no efforts shall be wanting on my part, to discharge the duties of my office in a manner which shall be satisfactory to you, and at the same time promotive of the great objects of our Association.

If the great increase of State and County Societies of Agriculture, be any true indication of the increase of that spirit from which they originate, and by which they must be cherished to render any essential and permanent good to the cause of American husbandry,—then, surely, the friends of this cause were not too sanguine in encouraging the hope that an Agricultural Society might be formed, which would accomplish for the United States, as a whole, what the local societies of the same character were accomplishing for the separate parts. If a numerous attendance of its members from every state, at every regular meeting, were essential to its success, and that those meetings should always be held in the District of Columbia, then I admit our scheme would be impracticable. But neither of these conditions are necessary. On the contrary—it is easy, I think, to prove that the chief objects of our society may be effected without any such numerous attendance from every state; and that to meet alternately at some of our principal towns and cities, as the Royal Society of England and the Highland Society of Scotland do at theirs, would be a far better plan than always to hold our meetings at the same place. On each occasion, we should thereby afford an opportunity for a different set of members to attend, which would have the effect of diffusing and keeping up the interest that such spectacles never fail to excite—especially if the funds of our society would enable us to hold an annual show and fair, accompanied by public trials of agricultural machines and implements. But the great object of every such association is, or ought to be, to collect and make public all facts within the sphere of their operations, which can in any degree contribute to the improvement of American Husbandry. Our society might do this I think, very effectually, if they would only adopt and execute the following scheme, which I now beg leave to propose. Let it be made the duty of our Vice Presidents, annually, to make a full report as far as practicable, of the agricultural condition of their respective states; to enumerate all the improvements (if any,) which may have been made in their agricultural machines and implements; to describe the most approved modes of culture—of manuring their lands—of managing their various crops—of rearing and treating their stocks—in short, to make these reports so comprehensive as to form, when condensed and arranged by some competent person, as complete a body of husbandry for the United States, as Sir John Sinclair's justly celebrated "Code of Agriculture," has formed for Great Britain. I have not the pleasure of a personal acquaintance with many of our Vice Presidents, but if I may judge of the others by those whom I do know, there cannot be a doubt of their entire willingness to perform such a task; nor will I doubt their readiness to undertake it, if called upon to do so. It would surely be a truly honorable, patriotic, and praiseworthy occupation, although no food for vanity and ambition—that mental diet with which, by the way, far too many of our brethren are so marvellously fond of regaling themselves, that they can find no time for studying and practicing their profession; by which neglect they deeply injure themselves and families, without being able to do the slightest good to their country. Moreover, the occupation which I have taken the liberty to suggest for our Vice Presidents, would be one to which, I should think, any farmer might be proud to devote as much of his time as would suffice for the purpose; particularly when he might feel perfectly assured, all the while, that he was not laboring in vain, nor doing worse—as the politician often does even without being conscious of it—but actually rendering no inconsiderable service to his fellow citizens, and thereby indirectly benefiting his country. The agricultural societies of his own state could probably, and willingly would furnish each Vice President with all the information which he himself did not possess, so that the work would prove in the end, far easier to accomplish, than might at first be supposed. All they would need to secure success, would be earnestly to strive for it, and confidently believe it attainable; for the old maxim—"possunt quia posse videntur," will be found to hold good in regard to every thing which can be accomplished by human effort. Faith must always precede works, or they will either not be attempted at all, or commenced in such a way as certainly to fail. I know not how others may estimate those works which I propose to require of our Vice Presidents, but to me, they seem of great importance; although I confess they will be entirely destitute of all that ostentation and eclat which so fascinates the minds of ambitious men, that they will very rarely ever attempt to do any thing—especially, of a public nature—unless it will place them in some situation of dazzling show and notoriety. Simple, unobtrusive, silently working acts of patriotism, however beneficent in reality, have no charms for them, but pall upon their vitiated minds, as simple food does upon the appetite of the gourmand.

The public good!—the public good!!—although constantly in the mouths of such pseudo-patriots, is never in their hearts; and most unfortunate indeed, would it be for every community, if the mass of its citizens consisted of such false, pretended friends. Especially unfortunate will it be for our class, and hardly less so for our country, if the inordinate passion for public life, which of late years has been spreading so alarmingly fast among our brethren, should not speedily be checked; for it is seducing very many of them from their farms and families, where they can do some good, into situations for which they are totally unprepared, either by early education or subsequent study. I may be thought presumptuous in making this declaration; but it is the literal, undisguised truth, which it behooves some of us to tell our brethren, and I am willing to take the responsibility, as I cannot expect to live many years longer among them. It is a deeply seated, rapidly increasing moral disease, which, like deadly blight upon our crops, destroys for a time all disinterested efforts to improve our husbandry—as there are no pompous, gorgeous honors in store for such laborers—nothing to feed insatiate vanity—nothing to gratify inordinate ambition. The workers in our sphere, must be content to toil without public applause; to struggle with all the difficulties of their situation without public sympathy; to be even looked down upon by some, with feelings not far short of contempt; to labor for their country, whilst their country labors not for them; and to seek their reward in the thorough consciousness that as their profession is first and above all in general utility, it has a just, an inextinguishable claim to be ranked as fully equal, if not superior, to any other, in honor, in dignity, and in the hearts of their countrymen. To this cause, I fear, we must ascribe the fact of our finding so few in our profession who are willing to exert themselves in its behalf, with sufficient zeal and perseverance to promote it as a source, not only of their own, but of our national prosperity. Too few of us are accustomed to take this comprehensive view of the subject; too few to notice the important fact that our individual gains constitute an elementary and essential part of our nation's wealth. To induce such a sentiment, (for it is something more than simple belief,) at least in a majority of our brotherhood, is one of the advantages—may I not call it a blessing—which I have always expected our country would derive from the general establishment of agricultural societies properly constituted and judiciously managed; and from ours more than any other, simply because it was more comprehensive. This has been my chief reason for attaching such importance, as I have ever done, to these associations: for nothing seems to me more perfectly demonstrable than the necessity of thoroughly convincing the agriculturists of our country, that it is their imperative duty always to consider the improvement of our husbandry, as well in reference to the national interests as to their own, if we would qualify them to discharge as they ought to do, the various and all-important duties, both private and public, which they are destined in every community to fulfil. Shall we therefore be proud of our profession? Surely not, unless we render ourselves worthy of it; otherwise we should take shame to ourselves, and not acknowledge to what family we belong, lest we should disgrace it. But only let us contemplate it as it deserves to be contemplated; let us view it in all its bearings upon the great, the vital interests of society; and sure I am, that there would be few, very few of us indeed, who would not thereby be irresistibly urged to the diligent study and practice of our profession, by the twofold motive of *self-interest* and *patriotism*; the joint influence of which could hardly fail to produce all the happy effects that might reasonably be anticipated from them. And if there ever was a time, when more than any other, it deeply concerned the Farmers and Planters of the United States, especially to cherish both these powerful stimuli to human action, that time is now present. Enormous debts oppress and nearly paralyze the energies of our whole country, as well as of every honest trade, profession, and calling in it; dangers of no ordinary character and magnitude threaten us both at home and abroad; whilst vice and crime are stalking over the land with most alarming increase, and almost entire impunity. For most of these appalling evils, I am not presumptuous enough to suggest any remedy whatever; but for the first—I mean our great indebtedness chiefly to foreign nations, of which every sentiment of honor and honesty, binds us to acquit ourselves—I have no hesitation in saying, that the only cure must be sought in augmenting the skill, industry, and economy of the productive classes of our society, and especially of the agriculturists, who produce by far the greater portion of the materials from which our debts can be paid. The only question then, is by what means this augmentation can be effected, at least among our own brethren? The answer, I think, readily suggests itself. Make us more conscious of our own deficiencies, both in the science and practice of our profession; make us better acquainted with the nature and magnitude of our resources, with the best methods of developing and applying them—with the imperative necessity of speedily ascertaining those methods—with the great advantage of frequent mutual consultation and cordial co-operation, for the purpose of making this discovery—to all which, agricultural societies in general, and ours in particular, may most powerfully contribute, and more than half the all-important work would be accomplished.

Many of my auditors probably, and not a few of my own brethren, may be unaware of the extent of our ignorance as a class, in regard to nearly all the matters just stated; and particularly of the great disproportion which still exists between the vast arable surface of our country, and the number of persons employed in cultivating

it: although I believe the common opinion is, that we have quite enough for the purpose. If such were not the general belief, we should surely see more, at least of the intelligent, reflecting portion of our fraternity, educating their sons for their own profession. But this belief of a full supply of agricultural labor, even if it were universal, is most assuredly wrong, as can easily be shown. Indeed, I think I can demonstrate, so far as facts and figures can do it, that however large our present agricultural population may appear to be, it still falls short—even in the old States—very far short, of what it ought to be, if our beloved country is ever to be cultivated in the manner and to the extent which its immeasurable capabilities of production evidently require of us. With a view to place this matter beyond a possibility of doubt, I have been at some pains to prepare from our late census and other public documents, the following tables.* In the first, the states and territories are arranged according to the number of square miles in each; then follows the number of persons reported to be engaged in agriculture; next, the proportion of such persons to the square mile; then, the quantities of all kinds of grain produced by them; and lastly, the quantities of sugar and potatoes, together with the values of the orchard and dairy products, and the number of tons of hay. The other table exhibits the states and territories arranged according to the total amount and average values in 1840, of those agricultural productions, and comprehends all the other articles included under the head "Agricultural statistics;" although to place "furniture" in this category, (as I see has been done,) seems to me as queer a conceit as was that of an old congressional acquaintance of by-gone days, who, on a certain occasion, called to one of the little pages of the house to hand him a glass of grog, and charge it to the article "*fuel*." But there is another objection to this classification. It probably includes the furniture of all the other classes of the United States; and ours is already sufficiently extravagant in such investments, not to be made responsible for more than their own share of the innumerable sacrifices daily made to this highly culpable, and often most preposterous—most ruinous love of show. It is bad enough in any of the productive classes, but far worse in ours, because we furnish the means of subsistence to all; and must furnish less and less, just in proportion as we spend more in useless decorations for ourselves and houses, than we do in the substantial improvements of our farms.

I will not tax your patience by reading the subjoined tables, but must solicit your attention to some of the results, which to me, at least seem worthy of the deepest consideration.

The first of these tables proves most clearly, that notwithstanding the immense agricultural resources of our country, and our great inducements to develop them, greater in fact, than at any former period of our national existence—if we would maintain the national credit both at home and abroad, as every honest man must anxiously desire to do—we are still deplorably deficient in agricultural labor. For even in Massachusetts, which possesses, in proportion to its whole population, the largest number of persons engaged in agriculture, the ratio to the square mile is only 12.11, whilst in Arkansas it is no more than .45, the average for the whole United States being only a very small portion over 5.10. But this estimate is made on the supposition that the whole number of persons reported by the census to be engaged in agriculture, are really capable of labor; whereas, we may assume as it is a thing certain, that at least one-fourth consists of persons either too young or too old for such occupation, and consequently, that the above statement makes the average proportion to the square mile, of actual laborers, one-third larger than it should be. It is true that some deduction ought to be made in each state and territory, from its estimated surface, on account of inarable lands and water; but I have no means of ascertaining what such deduction should be, and therefore have been compelled to argue as if our whole territory was arable, and as if all our population called *agricultural*, were actual cultivators thereof. We should also bear in mind that the census itself is known to be very inaccurate in many respects; owing in part, to the carelessness of the persons engaged in taking it, but chiefly to the highly culpable conduct of certain editors of newspapers who exerted all their influence to prevent the execution of the new and extended plan. Still it affords a sufficient approximation to the truth for my present purposes, and therefore I have availed myself of it.

This first table proves another highly important fact, which ought to excite the deepest shame in our brother agriculturists in some of the states. It is, that with nearly double the number of square miles, and about the same proportion of agricultural laborers to each, they produce but little more than half the quantity of food for man and beast. It would be invidious to name these states; but the table will show them to any who have the curiosity to examine for themselves; and such examination may render them much service, if it be made with a sincere desire to contribute towards the removal of this shame by the only attainable means, and that is—*better husbandry*. This course however is the very last, I fear, which will be taken by the authors of the disgrace: who probably, will greatly prefer seeking to find an excuse for it in differences of climate, and natural fertility of soil. Something certainly may be truly ascribed to these causes, although not in the cases which particularly attracted my attention. But after making for them, where they really exist, all the allowances which can justly be

* Most of the facts given in these tables, being embraced in the tables of Agricultural Statistics, published in our last number, we have not deemed it necessary to insert them.—Ed.

made, I am very confident that in nearly every instance where one state is found to produce more than another, in proportion to its cultivated surface, it will be discovered by those who will take the trouble to ascertain the true causes of such difference, to be attributable to the superior scientific knowledge, practical skill, industry, and economy of the owners and cultivators of the soil, who have either never abused the bounty of Providence in giving them good lands, or have corrected the abuses committed by their predecessors. In some of those states, it is notorious that agriculture is still in a very lamentable condition, and little or no attention is paid to it as a science. The inevitable consequence of this is, in all those states, that the practice thereof as an art, must necessarily fall very far short of what it ought to be; for there are certain fundamental principles upon which *all arts* depend, without a knowledge of which in their practitioners, it is just as impossible that they should ever reach perfection, as it is for mere chance to make a world. If the opinion be general, that neither mechanics, geology, mineralogy, chemistry, nor botany, has anything to do with our profession, it is very certain that neither will ever be studied by those who entertain this opinion: and it is equally certain, that unless they acquire some knowledge of the intimate connection which exists between agriculture and all those sciences, they never can gain a just title to the character of good farmers. They may indeed, often make good crops, and even make money, if they are economical. But this they can do only by following implicitly the example of others, without understanding any thing of the principles upon which they act, or knowing how to make the slightest change in their modes of proceeding, should a change of circumstances make it necessary. Another great evil arising from this state of things, is, that our profession does not rank near as high in public estimation as it should do; for the majority of its followers being comparatively ignorant and illiterate, the members of other trades, professions, and callings, especially of what are called, par excellence, the learned professions, will certainly be very apt to infer that *their* vocation itself, is one which requires neither talents nor learning to render it successful, since so large a proportion of those who follow it are found very deficient in both. None indeed, will more frequently entertain this most pernicious opinion, than that very numerous body of our own brethren who are so destitute of education as scarcely to be able to read or write. This is an evil of great extent, and interposes, wherever it exists, an effectual barrier to any great improvement in American husbandry; for it is always accompanied and fortified by a combination of self-conceit and obstinacy, which is nearly as impregnable to all force of argument, as the rock of Gibraltar has heretofore proved to all the power of artillery. Illustrative of this fact, I have somewhere seen an amusing anecdote of King Alfred the Great, and an old priest, who, in one of the Latin prayers then always used in the church, had ignorantly substituted the word "*mumpsimus*," for "*sumpsimus*." The king, (as the story goes,) labored hard to convince him that he was wrong, but could get no other answer for his pains than this, "*your majesty may be right, but I can't give up my old mumpsimus for your new sumpsimus*." And if similar traits of character be any proof of consanguinity, the old priest has not a few near relations, even in these our days of much vaunted enlightenment. Still, as their liberation from such mental degradation is a most desirable thing, and not altogether hopeless, every true friend to his country should labor incessantly to accomplish it; for next to the victory obtained over our own ignorance and prejudices, there is none whatever so truly glorious, so full of soul-cheering thoughts, as that which we gain over the ignorance and prejudices of others: it ennobles both the conquerors and the conquered. But unfortunately for mankind, it seems not to be the common opinion. Such victories procure no applause, no man-worship, from the multitude; and this being the thing which most men covet above all others, it is no wonder that the mental and moral improvement of our race should be a pursuit in which we find so very few voluntary laborers in proportion to the magnitude and vital importance of the work to be done. That portion of it which the professional and intellectual wants of our own brethren require to be performed, constitutes but a small part of the vast whole; but it is *that part* especially, in regard to which it most behooves us who are members of the Agricultural Society of the United States, to exert all the means in our power to accomplish. This, I presume, was one of the chief purposes for which we associated ourselves together; and most earnestly do I hope, that at least a majority of our members are of the same opinion. If they are not, if they contemplate no such end, if they believe that our meetings are to be held without effecting any good to our agricultural community at all, commensurate to the large scale upon which our society has been organized, *then indeed*, I have no hesitation in saying, that when we adjourn on the present occasion, it should be to meet no more as an agricultural society; for we should justly deserve the derision, instead of the praise and approval of our brethren throughout the Union. Already we have been sneered at, and that too, in an agricultural paper, as something that would prove at least "*harmless*;" and harmless, I trust, will be the prediction. But attempts have been made to excite against us something more than ridicule; attempts, which, if successful, will do us material injury. It has been said that we shall kill all the local societies; and although not a shadow of reason has been offered in support of this preposterous assertion, yet, like every other which concerns the interests of many, it appears to have made pros-

selytes enough to require that it should be noticed. So far am I from being able to discern the most remote probability of other societies being injured by ours, that it seems to me certain they must reciprocally benefit each other: since the various information which they *can*, and I hope *will* impart to us, relative to all the different branches of husbandry, we can diffuse more generally and rapidly than they can, over our whole country. Moreover, it is such information as *they* can always best obtain, in consequence of their greater intimacy, and nearer connection with our agricultural brethren in the different states and territories. Instead of seeking over the whole country for the facts we may want, which we should be obliged to do if there were no local societies, we should always be able to find the greater part of these facts in their possession; and hence we should have every inducement to co-operate most cordially together. Although distinct in organization, and independent in action, they may always be to each other, what the states and the general government *may* and *should* be, that is, cordial co-laborers in the one grand, all-glorious cause—National Happiness.

I have heard of a few other objections to our society, although they are really so frivolous, so manifestly the offspring of a total misconception of our objects, that it would be an utter waste of time to notice them. I shall not therefore make the slightest attempt to disturb the self-complacency of those who entertain them.

To insure complete success to our association, there seems to me but one thing necessary in addition to an Agricultural paper, and that by no means difficult to accomplish. If the men who occupy the high places of our country would constantly and zealously aid it, not only by their purses, but by giving their countenance to all its proceedings—by contributing their good words to all its objects—and by communicating to it, for publication, the useful results of all their own agricultural experience: then indeed, might we reasonably hope soon to render to the cause of American husbandry all the good which such a society, properly conducted, is certainly capable of imparting. Funds would soon accumulate sufficient to have an annual Show and Fair, on a scale co-extensive with the magnitude and importance of the ends to be attained. At these exhibitions, we might bring into highly useful competition, the inventors of all the most approved agricultural machines and implements, so as to make it far more generally known than it can be by any other mode, which are best. Another great advantage of these Shows would be, that being on a much larger scale than any State Show, they would afford better opportunities for putting an end to the apparently endless controversies in regard to the comparative merits of the numerous varieties of foreign cattle, hogs, and sheep, which for several years past, have been imported into our country. The praises of all these far-famed animals have been so incessantly sounded forth, and by trumpeters of such equal wind and speed, that our simple, untraveled brethren have found it utterly impossible to do more than to choose by guess, if they purchased at all. They have been thus placed in the sad predicament of the luckless Ass, between two equal bundles of hay. But should they ever make a purchase under such circumstances, there are twenty chances to one, that they are forthwith converted into the bigoted partisans of the particular breed of stock of which they have become the owners; for their pride and vanity will both be excited to maintain the judiciousness of their choice; and when these besetting sins once get possession of our minds, our judgment can very rarely exercise its proper influence. Our own property, whatever it may be, assumes a merit and value in our own eyes, far greater than the reality, merely because it is our own; or, to borrow an old adage expressive of the same thing, "*our geese all become swans*."

I fear, my friends, that in the preceding effort to advocate our cause, I have trespassed on your time longer than I should have done. But if I have committed this fault, I trust you will pardon me in consideration of the very deep interest I take in the subject, and of my thorough conviction that unless our husbandry is honored and otherwise encouraged far more than it ever yet has been, our country never can reach that high state of agricultural, commercial, and manufacturing prosperity which it is so pre-eminently susceptible of attaining.

Domestic Economy.

BUTTER—POUND CAKE.

MESSRS. GAYLORD & TUCKER.—Butter is so extensively made in the state of New-York, that it may be considered one of its staples.

It is a surprising fact that this most important article of northern production is *made poor* from negligence in attending to the common and obvious qualities of the milk. The pure milk itself possesses all the qualities requisite for making good butter, and if properly manufactured, there would be no variation in the quality of the butter, except that arising from the different qualities of cows or their pasturage.

Mark the above expression—*made poor*. This is the great difficulty. The milk in all its stages of progress to butter is subject to the influence of foreign matter, and thence becomes tainted at its commencement, verifying the old adage, "*as the twig is bent*," &c., thus it is easy to see that impure milk must inevitably make impure butter.

A cellar of about ten feet is most fitting for a milk room; be careful to have no sink or hen roost near the room, nor any plants of strong odor, such as catnip, on-

ions, tomatoes, growing near the windows, to taint the air of the room, which ought to be kept at a temperature of from 50 to 66 degrees, and to accomplish this desirable object a thermometer is recommended.

Flat stone or clay make the most suitable bottom for a milk cellar.

Let there be a total abstinence from *water* in the making of butter, as it washes away much of its volatile sweetness, which gives it the rich peculiar flavor; this is fairly illustrated by the fact, that ice placed on a plate of good butter renders it flat and tasteless.

Cream will rise sufficient in thirty-six hours; it must be sweet when taken off and sweet when churned. The butter in coming from the churn must be well worked with a wooden ladle; after a short time strew on the salt and continue working until the buttermilk disappears; then put the butter in a cool place for twenty hours; at the end of this time the salt being dissolved, the ladle may be again used to advantage. If the same care and patience were bestowed in working the milk from the butter, that is usually bestowed in mixing pound cake, there would be but few complaints of poor butter. The ingredients of the pound cake in general, must be admirably proportioned, but how deplorable do we often find the proportion of salt and butter! An ounce and a half of the former is generally applied to a pound of the latter, and from the manner in which butter is usually worked, the article would be intolerably rancid with a less quantity of salt; but if thoroughly worked, three quarters of an ounce of washed and well pulverized rock or Turk's island salt is sufficient to preserve a pound of butter two years.

Butter firkins should be of heart ash or white oak, to be soaked twenty hours before using. In putting down the butter, use no salt between the layers. In packing, great care is required to exclude the external air, exposure to which is highly injurious; firkins, therefore, are preferable to open tubs or pots, as they can be securely headed. Tubs with tight slip on covers, to hold 12 to 15 lbs. of butter, are much in use, and are neat and convenient for a small quantity of butter for immediate use. Butter cloths are sometimes necessary, and these cloths should be used for butter only.

Butter is frequently conveyed to market and to exhibition for premium, in very improper vessels and unsightly cloths, which prevent a quick sale and good price, and frequently the loss of a premium when otherwise entitled to reward.

MAGNOLIA.

MANAGEMENT OF POULTRY.

MESSRS. GAYLORD & TUCKER.—I have been requested to give you and your readers, some account of my success in the management of domestic fowls. My experiments, having been continued for many years, have wrought in me the full conviction, that there is as great a difference and as much ground of preference among the breeds or varieties, as there is among cattle. Having tried a great number of different kinds, I have adopted as my favorite, the Poland breed, or the black top-knots, as they are familiarly called. These, when pure or thorough-bred, are of a glossy coal black, with a large tuft of long white feathers on the top of the head, and are the most beautiful domestic fowl probably, that can be found in this country. Their excellence consists mainly in their disinclination to set till they are three or four years old, and when well fed, continuing to lay eggs the whole year, except during moulting time. This generally commences in the month of October or November, and occupies about six weeks, during which they never lay eggs.

Last year I kept of the black top-knots, two cocks and fourteen hens. Early in December, 1840, they began to lay and continued laying, with occasional intervals of from three to six days, all winter and summer, till about the middle of October, 1841. The whole number of eggs produced, I did not ascertain; but of the eggs of three hens, that laid by themselves the year round, I kept an account, and found that they averaged 260 eggs each. Only two of the fourteen hens showed the least disposition to set during the year. The food they consumed during one year, consisted, first of twelve bushels of damaged wheat which I purchased at twenty-five cents per bushel, and afterwards twelve bushels of oats, also at twenty-five cents per bushel, amounting to six dollars. This, with a supply of fresh water every day, kept them in good condition, and caused them to produce large eggs; for all fowls lay larger and heavier eggs when well fed, than when they are poor. My fowls have also laid the whole of this last winter. I have never succeeded so well with any other breed.

Buffon says, a common hen, well fed and attended, will produce upwards of 150 eggs in a year, besides two broods of chickens. But the common hens I formerly kept, always fell much short of this number.

Were I to describe as the result of my experience, what I think the *best food* for fowls, I should say a plenty of grain, not much matter what kind, either boiled or soaked in water, and in winter mixed with boiled potatoes, fed warm, twice a day. It is also of great importance that they have a warm sunny place to stay in during winter, for if left without care to find their roost here and there in an open barn or shed, they will produce no eggs. If they could, in winter, be roosted in a tight room ten feet square, where by their contiguity they could mutually impart warmth, their improvement would be manifest to the most incredulous.

The only disease of consequence that I have observed among my fowls, has been the *pip*, which is a kind of horny scale growing on the tip of the tongue, and by

which they are liable to be attacked late in autumn and early in the winter. When attacked with this, they appear stupid, stand by themselves with no inclination to move about, refuse all food, and if not attended to in two or three days they die. On discovering these symptoms, they should be immediately caught, and with a knife or the thumb nail, this scale may be caught on the lower side of the tongue and peeled off, when they will immediately recover.

KEEPING EGGS.—Having tried many ways of preserving eggs, I have found the following to be the easiest, cheapest, surest and best. Take your crock, keg or barrel, according to the quantity you have, cover the bottom with half an inch of fine salt, and set your eggs in it close together on the small end; be very particular to put the small end down, for if put in any other position they will not keep as well and the yolk will adhere to the shell; sprinkle them over with salt so as to fill the interstices, and then put in another layer of eggs and cover with salt, and so on till your vessel is filled. Cover it over tight and put it where it will not freeze, and the eggs will keep perfectly fresh and good any desirable length of time. My family have kept them in this manner three years, and found them all as good as when laid down. I believe we have never had a bad egg since we commenced preserving them in this manner. The trouble is comparatively nothing, for when we have a dozen or so more than we wish to use, we put them in the cask and sprinkle them over with salt; and when at any future time we wish to take them out, they are accessible and the salt is uninjured. But mark! the eggs should be put down before they become stale, say within a week or ten days after they are laid.

Every man by this process may have eggs as plenty in winter as in summer; and farmers who make a business of selling their eggs, may easily calculate the profits of preserving them in summer and selling them in winter. Eggs where I live, sell frequently in summer at eight cents, and in winter as high as thirty-seven and a half cents per dozen. In view of these various considerations, it must be evident that no investment that a farmer can make, will yield so great a profit as a few dollars in domestic fowls. They will cost, probably in no case, more than fifty cents each per year for their food; the trouble of taking care of them is fully counterbalanced by the pleasure they give; and they will, or may be made to, produce each on an average from 200 to 250 eggs, besides an occasional brood of chickens.

The theory of your correspondent B., in your March No., respecting animal food being necessary to the production of eggs, does not correspond with my observation of facts. I have for years been obliged to shut up my fowls during most of the summer, where they could neither get insects nor any kind of animal food, and yet they continued to lay as much as any I have ever known that run at large.

The banishment of cocks too, which he recommends, I have tried, and abandoned it as unnatural and worse than useless; for with a good attendance of the male, say one to six in summer and one to four or five in winter, I have always found the hens to be the most profitable.

H. A. P.

Buffalo, March, 1842.

STEAMING BREAD.

MESSRS. GAYLORD & TUCKER—I see that you devote a part of your valuable paper to Domestic Economy.—This is as it should be. Our lady readers, we think take an interest in our agricultural papers, and of course they should have a part of the paper set apart for them. There is no more important part of the provision of a family than the article of bread. If we are out of bread, we hardly know how to make a meal. We believe that every housewife almost, can or does pride herself, on making good bread. But, says the good housewife, as she looks through her specs into the Cultivator, I wonder what they want carry steam to next? We have steam to drive people through the world on railroads, and steam for hatching chickens, and last of all, steam for making bread. Not steam for making bread, good lady, but steam for making old bread into new. It is well known by every housewife, who has a family, that in baking a large batch of bread, some of the loaves will get dry and hard, before it is all used. The general practice is, we believe, to make puddings out of the dry bread. This, however, is some trouble, and we will come to the point at once; in the first place, fill your porridge pot about half full of water, and as quick as it boils, have some short sticks or rods to lay in across the pot, close to the water; then put in your loaf, shut down the cover, and then you can let on the steam for about fifteen or twenty minutes. However, you can try it with a fork, and when it is done put it on the table; and if you don't say it is as good as new bread, if not better, then you may set me down as a false prophet. We don't think this to be entirely new, yet it may be new to some. It is worth a trial. It has just been said, that "bread is the staff of life," and a certain gentleman said, that if bread was the staff of life, bread and butter was a staff with a gold head.

Yours truly,

Derby, Conn., March 21, 1842.

L. DURAND.

AN EXCELLENT PASTE.

TAKE half an ounce of Gum Tragacanth, dissolve it in water, put it into a wide-mouth bottle, and keep closely corked; when thus prepared, put a small quantity of kresote or cologne water on the top to prevent moulding. Paste made in this manner, will last for years. A.

The Garden and the Orchard.

THE PEACH TREE.

EDITORS OF CULTIVATOR—I think the lovers of peaches, and especially those who are desirous of raising the peach tree, and who are deterred from doing so by the difficulty of preventing its destruction by the peach worm, will be gratified to learn that the very best way of effecting that object, (the prevention of the peach worm,) is to make a pile of stones around each tree, and in close contact with it, to the height of about 12 or 15 inches. This, if done and continued, before the trees have become diseased by the attack of the worm, will effectually prevent their decay from that cause ever afterwards. Let the sceptic try it.

ANON.

The Plains, Va., Feb. 1842.

BLACK RUST ON PLUM TREES.

My plum trees are all destroyed by the black rust.—What will cure the disease which appears to be caused by insects? I came into possession of the Oakland farm on Staten Island, late in the spring of 1839, having a number of plum trees upon it affected with the rust. The fruit that season was nevertheless tolerable, though many rotted and fell off before they came to maturity.

In the spring of 1840, the trees were trimmed and cleared of all the rusty knots, the bodies of the trees whitewashed, and holes bored into them and filled with sulphur. Very little good fruit that year, though plenty on the trees, most of it dropping off, or rotting on the limbs. In the fall of the year, the trees were as full as ever of a new crop of rust.

In the spring of 1841, they were again trimmed and cleared of all the knots, and the trees manured with ashes. They were full of blossoms, but there was no good fruit, and in the autumn the rust was thicker than ever; and as the disease was spreading to the green-gage trees near them, I deemed it advisable to cut them down and burn the limbs, which was done in the beginning of 1842. A number of young plum trees were transplanted by me, but the disease has attacked them also. Thus it appears that there is no hope of raising plum trees to advantage, where this disease becomes so prevalent and spreads so rapidly as above described. Our latitude is between 41° and 42° north.

RICHMOND.

REMEDY FOR INSECTS ON PLANTS.

MR. D. HAGGERSTON, of Watertown, Mass. has claimed the premium offered by the Mass. Hort. Soc. for the most cheap and effectual mode of destroying the *Rose slug* or bug. The remedy is "Whale oil soap dissolved at the rate of two lbs. in fifteen gallons of water." Mr. H. states that as there is much difference in the strength of this soap, it will be better to begin with this quantity, and if it does not kill the insects to increase the strength, which may be done without injury to the plants. Dissolve the soap in a small quantity of boiling water, and strain it through a fine sieve, then add the proper quantity of cold water, and apply it with a watering engine or syringe. The cost is about four mills per gallon. Mr. H. also states that this preparation is also an effectual remedy for other troublesome insects, such as the *Thrips* or vine fletter, the *Aphis* or plant louse, the *Black fly* that infests the young shoots of the cherry, &c., the *Acarus* or red spider, and some insects that infest evergreens, such as the balsam of fir, and others. "The disease Milder, on the gooseberry, peach, grape vine, &c., is checked and entirely destroyed by a weak dressing of this solution." If this solution of whale soap is as efficacious as is represented, Mr. H. deserves the thanks of the public as well the offered premium, for bringing it to the notice of the public. There can be but little doubt it will be found useful in many cases not specified by him, and it will also be beneficial in promoting the growth of plants.

Veterinary Department.

DISEASE OF SHEEP.

A NOTE from J. Harland, Esq. Guelph, U. C. says, "A subscriber states that his sheep were attacked in the early part of last summer, by a cough and running at the nose, which has continued up to the present time. He would be glad to learn a remedy."

There are several causes which may produce the symptoms described, such as the presence of the larva of the *Oestrus oris* in the frontal sinuses; the presence of the round hair worm, *Strongylus filaria*, in the trachea and bronchial tubes; and what is called Coryza. The larva of the oestrus are best removed by blowing tobacco smoke up the nostrils; no remedy has as yet been discovered for the hair worm; but its presence is fortunately rare. Coryza is brought on by the exposure of the animal to storms or severe cold, after having been heated, and we have known severe cases arise from improper exposure to cold storms after shearing. Generally, the cough and running of the nostrils disappear without trouble; sometimes fever accompanies the attack, and then shelter and a purgative medicine are necessary; but sometimes the cough continues, the irritation of the bronchial tubes becomes chronic, and the rot or consumption of the lungs follows. If the disease in its early stages appears obstinate, Blacklock recommends in addition to the purgative, "a powder made of powdered digitalis, (foxglove), half a dram; tartarized antimony, fifteen grains; nitre, two drams. Rub well together, and divide into fifteen parts

or powders. Half an hour after the powder is swallowed, give the sheep a basin of warm gruel, and repeat the powder at the end of six hours, if the symptoms are not much abated." Sheep so diseased, should have a dry, sheltered pasture, good nutritious food, and be sheltered from sudden or unfavorable changes of weather. In this country, allowing sheep to lick salt from tarred troughs, or giving a little tar to swallow occasionally, has been strongly recommended as producing a good effect in such disorders of this valuable animal.

CURE FOR BLOODY MURRAIN.

MESSRS. GAYLORD & TUCKER—Having cured several cattle of Bloody Murrain by the following recipe, I send it to you for publication in the Cultivator. Take one pint of fat, melt it—add one gill spirits of turpentine—then put in half a pound of sulphur, stir it till it is thin—put in a junk bottle, and pour it down the animal. Rockville, Ill. 1842. A. HUYCK.

ACKNOWLEDGMENTS.

Our thanks are due to J. Boyle, Esq. England, for a copy of a volume recently issued at Edinburgh, entitled "Agricultural Tour in the United States and Upper Canada, in 1841, with miscellaneous notices, by Capt. Barclay, of Ury," to B. V. FARNCH, Esq. Boston, for "Constitution and By-Laws of the Mass. Hort. Society, together with a report of its Transactions for 1839, 1840 and 1841," to Hon. D. D. BARNARD, M. C. for Mr. Saltonstall's Report on the Tariff,—to the Editor of the New Farmer's Journal, London, for the continued files of that valuable publication.

NOTICES TO CORRESPONDENTS, &c.

Our correspondents must not think that their favors are rejected, because some of them are kept on hand for months. We should be glad to give most of the communications we receive, an early insertion, were it possible to make room for them; but notwithstanding we condense and crowd into our pages all that is possible, we still find it necessary every month to omit many articles which it was our wish and intention to have inserted.

Besides those inserted in this paper, we have received since our last communications from J. Horsfield S. McCay, Subscriber, Commentator, Good Intent, Eli Westfall, Henry Palmer, J. C. Stone, J. B. Cook, John Cooke, Stockport, D. G. Weems, Joseph Cope, Agricola, J. W. McCall, C. N. Bement, Wm. Partridge, H. Clark, L. Durand.

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CLARKE'S SILK REEL.

THE subscriber now offers for sale his patent Silk Reel, which he believes for simplicity, for saving labor, and for making superior silk, exceeds any other now in use in this or any other country. The reel is turned by the foot of the reeler with perfect ease, thereby saving the expense of a boy to turn; and is so constructed that the pipe from the furnace dries the silk as fast as it is woven on the reel, which makes the silk more glossy and soft, and less liable to tangle when wound from the skeins. Reels may be obtained of the subscriber in Greenwich, Ct., and sent by him to any part of the United States; and also of Darius Mead, No. 51 Maiden Lane, New-York. Also, patent rights for states or counties. Orders from any part of the country, postage paid, will be immediately attended to. Price of the reel, \$10. AARON CLARKE.

Greenwich, Ct. May, 1842.

PORTABLE MILLS FOR GRINDING.

A PATENT has lately been taken out for Mills, that will grind with one or two horse power, 3 or 4 bushels of grain per hour, with a stone of two feet in diameter. They are now in successful operation. The cost is about \$100. Your Subscriber in Illinois, and any one else, wishing to purchase, can be supplied by addressing a letter to J. SHERMAN, Jr. Bridgeport, Connecticut. May, 1842.

PORTABLE MILLS, &c.

IN answer to an inquiry from a subscriber in the April number, respecting Portable Mills for grinding corn in the ear for fodder, I would inform him that they can be had in Auburn, N. Y. The price of the machine will be \$30; will grind from 4 to 6 bushels per hour. With an additional expense of \$20, there can be a fixture to the same machine, for grinding corn sufficiently fine for bread.

Also, HUSSEY'S REAPING MACHINE is manufactured at the same establishment. Orders for either of the machines, directed to the subscriber, will be duly noticed. Auburn, N. Y. May, 1842. T. R. HUSSEY.